DOCUMENT RESUME

ED 125 996 95 SO 009 333

TITLE Food, 47 Activities: An Experimental Unit, First Draft.

INSTITUTION Denver Univ., Colo. Center for Teaching International Relations.

SPONS AGENCY Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

PUB DATE [76]

NOTE 156p.; Several pages of the original document are copyrighted and therefore not available. They are not included in the pagination; For a related document, see SO 009 334

EDRS PRICE MF-$0.83 HC-$8.69 Plus Postage.

DESCRIPTORS Class Activities; Classroom Materials; Course Content; Experimental Programs; Food; *Foods Instruction; *Global Approach; Instructional Materials; *Learning Activities; Nutrition; *Nutrition Instruction; Secondary Education; Simulation; Social Studies Units; Teaching Methods; Teaching Programs

ABSTRACT

Supplementary teaching activities at the junior- and senior-high school level on issues and topics involving food are provided. Topics include food production and distribution, nutrition, food shortages, food habits, and meal planning. Students are encouraged to develop perspective on global food concerns as well as understand their own family nutrition. Some activities are discussion starters and simulation games. Others provide factual data with a focus on thinking skills. Students use charts, conduct surveys, run scientific experiments, and view filmstrips. Where films are required, sources are given for obtaining the materials. Of the 47 activities, six are incomplete because copyrighted materials have been removed from the document. (AV)

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Sponsored by
Graduate School of International Studies
School of Education
Center for War/Peace Studies

FOOD

47 Activities

An Experimental Unit

First Draft

Prepared by the Center for Teaching International Relations

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INTRODUCTION

This volume is not meant to be used as a text or as a complete unit. This volume simply contains a wide variety of supplementary teaching activities on issues and topics involving food. Some activities are discussion starters, some provide factual data, some focus on thinking skills, and some are simulation games. All the activities are for experimental purposes. Hopefully, you will look through them and use the activities that will supplement your attempts to teach food education. You can find activities to help teach food production and distribution, nutrition, food shortages, food habits, meal planning, and other food topics that are currently dealt with in junior-high and high-school classrooms. The following index gives you some ideas on where to use the activities. Remember, these are experimental, supplementary activities.

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Participants are thrust into a real situation where there is a lack of food. This experience is used to promote discussion of the food shortages experienced by people around the world.

Activity #4 . . . . . Rich Nations / Poor Nations

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Activity #26 . . . . . Who Shall Be Fed?

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Activity #31 . . . . . Who's Fixing Dinner Tonight?

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Activity #32 . . . . . Gobble de Gook

Participants sample the general public's knowledge about hunger-related diseases.

Activity #33 . . . . . Food Waste

Participants evaluate and document food waste practices.

Activity #34 . . . . . Food and Technology

Participants examine and analyze some of the proposed technological solutions to food problems.

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Gives participants experience in identifying, planning, and preparing meatless meals.

Activity #36 . . . . . A Helping Hand?

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Activity #37 . . . . . Putting a Dollar Value on Life

Participants are forced into verbal dilemmas, making them evaluate their actions and values in relationship to their previously stated positions.

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Activity #39 . . . . . The Thinking Person's Diet

Using a reading, participants become familiar with the major issues and questions concerning the function of food in our lives.

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Participants write stories which help document their perceptions of food - related issues.

Activity #41 . . . . . Food Ideas

Participants are presented with over 30 ideas for individual study of food issues.

Activity #42 . . . . . Food Crises: Fact or Opinion?

Participants learn how to distinguish between statements of opinion and statements of fact.

Activity #43 . . . . . Values and Hunger

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Activity #47 . . . . . World Trade

Through this simulation exercise, participants become aware of the nature of trade policies and the potential for conflict and cooperation in the world trade market.

Title: FOOD POWER (by George Otero and Richard Schweissing)

Introduction: The purpose of an activity like FOOD POWER is to start people on a process of examining the realities of where the power and authority for changing food policy lies and how it might be mobilized. The leader would expect the group to have already arrived (as a group or as individuals) at some conclusion about which means of alleviating the world food crisis is best in their view. If the relative merits of the problem have been discussed previously, emphasis can be directed to the heart of this activity, which is, who facilitates the change in policy and how, and whether it is realistic to assume that the change in policy can be achieved.

Participation in this activity will guide the individual into an understanding of the concept of power and authority as it relates to the world food issue. Thus, a clearer understanding of who holds the power to make such decisions and who has or should have the authority to implement them will be the result. Also, in attempting to determine how to implement a world-wide food solution, the whole concept of interdependence comes into play.

Briefly, this activity presents a situation in which people analyze several commonly-discussed methods for alleviating the food problem. After rank ordering the choices accroding to preference, individuals must examine their choices in the context of who has the power to create the change and who would be given the authority for its implementation. Following this discussion individuals will again rank order the choices according to what is likely to be done. Finally, the group will draw conclusions about what they want to happen, given the dilemma between the desirable and the possible (if they are, in fact, different).

The leader would be much better prepared to lead such an activity if he had at least some knowledge of the political processes of the nation (e.g., who makes decisions, how the decision-making process is influenced, etc.) and also some knowledge of the debate that has raged over international controls of a food bank and organizations that might have a hand in it. The value of such knowledge varies with the sophistication of the group and the depth of discussion it is able to attain.

Lesson Objectives:

After completing this activity, the individual will be able to:

1. Identify at least 5 power centers that influence food policy.
2. State why a solution to the food problem is interdependent in nature.
3. Recognize that there may be a difference between the desirable and the possible in establishing a world food policy.
4. Recognize that the food problem must be treated from an international rather than a national perspective.
5. By participation in this activity, the individual will be able also to practice his skills in analytical thinking.

Mechanics:

Time: One class period

Materials: Student sheet on food solutions

Activity:

1. Explain to the group that the goal of this lesson is to select the best solution to the world food problem from among the choices given. A definition of "best" ultimately will mean the most desirable solution that can in reality be accomplished. However, at this point emphasis should be placed only on the most desirable solution.
2. Ask the group to rank order the five choices that they as individuals think are the best approaches to the food problem. They should focus on the choices they

think would do the most good, assuming that the means of implementation will be available.

The above two steps should take about 5 minutes.

3. Identify the top 4 or 5 choices most commonly preferred by the group. This could be done by a show of hands on how many sleected each item as a 1st, 2nd, 3rd, 4th, or 5th choice. Once the top selections have been identified, raise the following questions:
   a. Who would or does have the power to put this idea into effect?
   b. Who would or does have the power to effectively prevent the implementation of this proposal?
   c. Who would be given the authority to carry out the idea?
   d. Do those who have the authority to make the decisions necessarily have the power to implement them?

Possible answers to a, b, & c are: national governments (the role is likely to be different for developing as opposed to developed countries), farmers; organizations, international agencies such as the UN and its related agencies (FAO, World Bank, etc.), multinational corporations, the Common Market, OAS, etc. The discussion may conclude that there are more groups capable of preventing an action than there are those that can implement one, although the relative power of groups is also a factor. It will also show that there are agencies which are primarily national in scope making the decisions for an international problem. Also, most of the solutions cannot be approved and carried out by the same body, i.e., item 7 would require approval of the major fishing nations, and in some cases the industry within the nation, but none of these could carry out the idea.

Item d can be answered yes primarily in those solutions that are national in scope. It will be almost always no for those that call for international cooperation and/or management.

The above discussion should take about 20 minutes.

4. Ask the group to again rank order the suggestions from 1 to 5 according to which they think are most likely to be achieved, given the discussion on relative power and authority factors involved. Since the group will not have discussed all eight eight items, this will require further analysis on the part of each individual.

   Allow 5 minutes to reach a decision on individual rank orders.

5. Again determine which items were most commonly suggested and then allow individuals to justify their choices. Some factors for choice which may be given are:
   a. The relative ease with which a particular power group may be influenced.
   b. The number of power groups that might benefit from such a decision.
   c. The benefits that may accrue to the most significant power groups.
   d. The existing machinery available for implementing such a decision.

   These summary statements with questions should take about 10 minutes.

6. Ask the group to weigh the desirable with the possible and arrive at a solution that is the "best" choice as defined in the initial instructions.

   Evaluation of this activity should be based on the individual's ability to rationally explain his or her selection of the best solution, in light of the power and authority factors involved.

Future Resources and Suggestions: If the group reaches some consensus on which suggestion is most desirable, a plan of action to influence the development of that suggestion may be developed. This could range from influencing legislation to educating the public on the issue and proposals for its solution.

Student Materials: Each student should receive a list of eight suggestions for alleviating the food crisis.

FOOD POWER

Numerous groups and individuals have suggested the following ways in which the population/food crisis may be alleviated:

____ 1) Return all of the idled US cropland to production

____ 2) Establish a system of global food reserves, i.e. a single centrally managed world food bank to be built up in times of relative abundance and drawn from in times of acute scarcity

____ 3) Establish a plan for coordinated national grain reserve policies

____ 4) Increase US technical and financial assistance for developing the agricultural and food production potential of the developing countries

____ 5) Develop a long-term food aid policy in which developed countries would give away food through a multilateral organization such as the World Bank or the European Economic Community

____ 6) Reform agricultural management and land ownership to allow for maximum governmental control and coordination of food production

____ 7) Establish an international institutional mechanism for cooperatively managing global fishery resources

____ 8) Increase the developing countries' share of the world's export trade by giving them preferential treatment in the markets of the industrialized countries

1. Rank order the previous suggestions according to which you think is the best approach to the population/food problem. For example: 1 indicates the suggestion you feel is best, 2 is the next best, and so on. Continue until you have made 5 choices.

2. Questions for discussion:

   a) Who would or does have the power to put this idea into effect?

   b) Who would or does have the power to effectively prevent the implementation of this proposal?

   c) Who would be given the authority to see that the idea was carried out?

   d) Do those who have the authority to make decisions necessarily have the power to implement them?

3. Now rank order the suggestions again from 1 to 5 indicating which proposals you think are most likely to be implemented given the power and authority factors.

Title: Calorie Counting (by George Otero and Richard Schweissing)

Introduction: As world food supplies diminish, it becomes increasingly important that people in more affluent societies evaluate their own eating patterns. They are, after all, the one group of people most able to adjust their patterns for the common good and they are also perhaps the only ones left with free choice to do so.

This activity develops aspects of the concept perception/misperception. A common phrase, "I'm starving!", reflects some very real, if not accurate, perceptions of our own conditions--this activity is likely to expose the myths related to them.

This activity requires each individual to evaluate his caloric intake for one day. This data is then compared with average need and average consumption in other areas of the world.

Lesson Objectives:
After completing this activity, each individual should be able to:
1. Explain the place of calories in their diet.
2. List common foods that could easily be excluded from our diet.
3. Compare consumption levels for major areas of the world.
4. Suggest acceptable means to bring our diets more in line with our needs.

Mechanics:
Teaching time: 50 minutes
Materials: Calorie Chart, Chalkboard

Activity:

1. Ask each person to list all the food and drink they have had in the last 24 hours. After they have made their list, pass out the calorie charts and tell them to write down the appropriate calories next to each item (some estimating may have to be done on amounts). After the calories have been calculated, ask each person to total their count.

List the number of people on the board which fall into each of the following categories: 1500 or less; 2000 or less; 2500 or less; 3000 or less; 3500 or less; more than 3500.

While the calculations are being made, the leader should also put the following chart on the board:

Average daily need world-wide	2700 calories
Average daily American Consumption	3000 calories
Average daily Asian Consumption	2450 calories
Average daily Latin American Consumption	2700 calories
Average daily African Consumption	2350 calories

15 minutes

2. Discussion--two objectives are to be derived from the discussion:
a. identification of our own consumption patterns
b. comparison with other parts of the world

Suggested questions for objective a:
1. What foods had high calorie content that were not nutritious? Identify the common responses.
2. What other foods were expendable?
3. What would have been the caloric totals excluding all foods listed as expendable?
4. Would it be sensible to eliminate all such foods? Why or why not?
5. What suggestions could be made from the above data to the average American on how to alter his diet? Would he likely stay as healthy with those suggestions?

15 minutes

Suggested questions for objective b:

1. How does this group compare with the average American? With other parts of the world?
2. What does the table tell us about the rest of the world?
3. What are the consequences of a below normal caloric intake?
4. What, other than calories is needed in a diet? Are these elements more likely to appear in balance in the other continents listed than in the U.S.? Why or why not?
5. What long-term consequences of diet deficiency are apparent in a whole society? How can Americans relate to these problems?

Future Suggestions:

1. Ask the group to make a similar calorie intake record for a week and see if it is appreciably different.
2. Ask the group to eliminate expendable foods for one week and then discuss the changes they felt resulted.

Calorie Count Listing

Meat and poultry (most meats and poultry figured here as lean, all visible fat trimmed off, about 60 calories per ounce):

bacon, fried crisp, 2 slices	95
beef, roast, lean, 4 oz.	210
beef, hamburger, lean, broiled, 4 oz.	245
beef, potpie, 8 oz.	460
beef, steak, lean, broiled, 4 oz.	235
bologna, 4" medium slice, each slice	85
chicken, turkey, broiled, 3 oz	180
chicken, turkey, drumstick and thigh with bone, fried, 5 oz.	275
frankfurter, 1 medium size	155
ham, smoked, 3 oz.	290
ham, canned, all lean, 2 oz.	170
lamb, chop, broiled, lean only, 2.5 oz	140
lamb, leg, lean, 2.5 oz.	130
pork, roast, lean only, 2.5 oz.	175
pork, sausage, 4 oz.	340
tongue, beef, 3 oz.	205
veal, cutlet, broiled, 3 oz.	185
veal, roast, lean, 3 oz.	280

Fish and Shellfish:	
bluefish, baked, broiled, 3 oz.	135
clams, medium, each	9
crabmeat, 3 oz.	90
haddock, fried, 3 oz.	135
mackerel, broiled, 3 oz.	200
oysters, medium, each	12
salmon, canned, drained, 3 oz.	120
sardines, canned, drained, 3 oz.	180
shad, baked, 3 oz.	170
shrimps, medium, each	10
swordfish, broiled with butter, 3 oz.	150
tuna, canned, drained, 3 oz.	170

Vegetables:	
asparagus, medium, 2 spears	7
avocado, medium, half	135
beans, baked and canned types, 1 cup	320
beets, 1 cup	70
broccoli, 1 cup	45
Brussels sprouts, 1 cup	60
cabbage, raw, shredded, 1 cup	25
cabbage, cooked, 1 cup	45
carrots, raw, 5½", each	20
carrots, cooked, 1 cup	45
cauliflower, cooked, 1 cup	30
celery, 8 stalk, raw	5
corn, cooked, 5" each	65
corn, canned, 1 cup	170
cucumbers, 7½" each	25

raisins, dried, 1 cup	460
raisins, 1 level tbsp.	30
strawberries, fresh, 1 cup	70
tangerines, 2½" medium, each	40
watermelon, 4"x8" wedge	120
Dairy Products, Eggs, Fats, Oils, Dressings	
butter, 1 cup (2 ½-lb. sticks)	1605
butter, 1 pat or square	50
cheese, American, 1"cube	70
cheese, American, process 1 oz.	105
cheese, cottage, creamed, 1 oz.	30
cheese, farmer, pot cheese, 1 oz.	25
cheese, cream, 1 oz.	105
cheese, Roquefort-type, 1 oz.	105
cheese, Swiss, 1 oz.	105
cream, light, 1 cup	525
cream, light, 1 tbsp.	30
cream, heavy, 1 tbsp.	50
eggs, large, cooked without fat, each	80
eggs, scrambled, fried with butter, each	115
eggs, white only, raw, each	20
eggs, yolk only, raw, each	60
milk (cow's), whole, 1 cup (8 oz.)	165
milk, skim, nonfat, 1 cup	90
milk, buttermilk, cultured, 1 cup	90
margarine, 1 cup (2 1/4-lb sticks)	1615
margarine, 1 pat or square	50
oils, cooking and salad-corn, cottonseed, olive, soybean, 1 tbsp.	125
salad dressings, French, 1 tbsp	60
salad dressings, mayonnaise, 1 tbsp.	110
salad dressings, mayonnaise-type, 1 tbsp.	60
salad dressings, Russian, 1 tbsp.	75
yogurt, plain, 1 cup	120
Bread and Grain Products:	
bread, all types, plain, toasted slice	60
cereals, cooked, average type, 1 cup	105
cereals, dry unsweetened, average, 1 oz.	110
crackers, graham, medium, each	28
crackers, rye wafers, 2"x3½", each	25
crackers, saltines, 2" square, each	23
macaroni, spaghetti, cooked, 1 cup	155
muffins, 3" size average, each	140
noodles, egg, cooked, 1 cup	200
pancakes, 4" each	55
rice, cooked, 1 cup	200
rolls, medium size, average, each	130
waffles, average size, each	240

lettuce, 5" compact head, 1 lb.	70
lettuce, 2 large leaves	5
lima beans, 1 cup	150
mushrooms, 1 cup	30
onions, raw, 2½" each	50
onions, cooked, 1 cup	80
parsley, raw, chopped, 1 tbsp.	1
peas, fresh, cooked, 1 cup	110
peas, canned, frozen, drained, 1 cup	80
potatoes, medium, baked, with peel	105
potatoes, medium, baked, without peel	90
potatoes, medium, boiled	90
potatoes, French-fried, 2" x ½", each	15
potatoes, mashed, milk, no butter, 1 cup	145
potato chips, 2" medium, each	11
radishes, raw, medium, each	3
sauerkraut, drained, 1 cup	30
spinach and other greens, 1 cup	45
squash, summer type, 1 cup	35
squash, winter type, 1 cup	95
string beans, 1 cup	35
sweet potatoes, medium, baked	155
sweet potatoes, medium, candied	295
tomatoes, raw, medium	30
tomatoes, canned, 1 cup	45
tomato juice, 1 cup (8 oz.)	50

Fruit:

apples, raw, medium	70
apple juice, 1 cup	125
applesauce, canned, sweetened, 1 cup	185
apricots, raw, each	20
apricots, canned in syrup, 1 cup	220
bananas, medium, each	85
blueberries, blackberries, 1 cup	85
cantaloupe, 5" medium, half	40
cherries, 1 cup	65
cranberry sauce, canned, 1 cup	550
dates, pitted, 1 cup	505
figs, dried, 2"x1" large, each	60
fruit cocktail, canned in syrup, 1 cup	195
grapefruit, 5" medium, half	55
grapefruit juice, fresh, 1 cup	95
grapes, 1 cup	85
grape juice, bottled, 1 cup	165
lemons, medium, each	20
oranges, medium, each	65
orange juice, fresh, 1 cup	110
peaches 2" medium, each	35
peaches, canned in syrup, pitted, 1 cup	200
pears, 3" medium, each	100
pineapple, fresh, diced, 1 cup	75
pineapple, canned in syrup, 1 cup	205
plums, 2" medium, each	30
prunes, cooked, unsweetened, each	17
prune juice, canned, 1 cup	170

Desserts, Sweets:	
cakes, angel food, 2" sector	110
cakes, chocolate, layer, 2" sector	420
cakes, cupcake, 2 3/4", with icing, each	160
cakes, plain, 3"x2"x1½" piece	180
cakes, sponge, 2" sector	115
candy, caramels, fudge, 1 oz.	120
candy, chocolate, milk or dark, 1 oz.	145
cookies, fig bar, small, each	55
cookies, average type, 3" round, each	110
chocolate syrup, 1 tbsp.	20
doughnuts, medium, plain, each	135
gelatin dessert, 1/2 cup	80
gelatin dessert, 1/2 cup sugar-free	10
honey, 1 tbsp.	60
ice cream, 1/2 cup	200
ice cream soda, average size	350
ice milk, 1 cup	285
jams, jellies, preserves, 1 tbsp.	55
pies, apple, other fruits, 4" sector	330
pies, custard, pumpkin, 4" sector	265
pies, lemon, meringue, 4" sector	300
puddings, custard, cornstarch, 1 cup	275
sherbet, ice, 1/2 cup	120
sugar, granulated, 1 tbsp.	16
sugar, granulated, 1 cup	770
syrup, 1 tbsp.	55
Miscellaneous:	
beverages, coffee, tea, plain	0
beverages, beer, 8 oz.	110
beverages, cocktail, average	150
beverages, gin, Scotch, vodka, whiskey, average 1 oz.	75
beverages, carbonated, ginger ale, 8 oz.	80
beverages, carbonated, cola-type, 8 oz.	105
cocoa, cup	235
ketchup, chili sauce, 1 tbsp.	15
olives, green and ripe, large, each	9
nuts, peanuts, roasted, shelled, 1/2 cup	420
nuts, cashews, pecans, walnuts, 1/2 cup	375
peanut butter, 1 tbsp.	90
pickles, dill 4", sweet 3" each	18
pizza, cheese, 6" wedge	200
soup, bouillon, broth, consommè, 1 cup	10
soup, chicken, tomato, vegetable, 1 cup	80
soup, creamed, asparagus, mushroom, 1 cup	200
soup, rice, noodle, barley, 1 cup	115

Title: Population/Hunger Day (by Richard Schweissing)

Introduction: Critical in the instruction of population/food issues is the need to create some kind of feeling for the conditions faced by people who are at the lower end of the scale of global food distribution. There is a significant difference between being able to intellectually explain the problems that exist and being able to empathize with hungry people. This activity is designed to help the group develop an awareness of the feelings that exist among people in overpopulated, underfed areas.

The concept most clearly conveyed in this activity is perception/misperception. Creating a situation where individuals stand on the side of the victims of the food crisis generates new perceptions of the problem and exposes many common misperceptions. A secondary concept that may come to the forefront is conflict/conflict resolution. As the day progresses, tensions may develop which demand attention.

The basic outline of the activity is all that is presented in the exercise. The group is asked to devote a day (or perhaps a half-day spanning two regular meals) to experiencing the dilemmas of overpopulation/underconsumption. The day is filled with activities, speakers, and films on population/food issues. The real key, however, is simply to confine the group to a room slightly smaller than is comfortable for a group of that size and to limit their meals to the style and quantity typical for underfed parts of the world.

It will be up to the leader to develop an entire day's schedule. This activity describes only those components necessary for setting the mood for the day and suggestions for debriefing. The leader may select other activities from this packet, arrange for films on population, nutrition, etc. (suggestions for resources are in the Resource Guide) and arrange for speakers knowledgeable on some aspects of the issue.

Lesson Objective:
After completing this activity, each individual should be able to:
1. Describe some of the feelings and tensions that result from overcrowding.
2. Explain several options for typical foods that may be eaten by the hungry of the world.
3. Describe the frustration created by lack of sufficient food.
4. Suggest some alternatives available to alleviate the situation.

Mechanics:
Teaching time: One full day (7 a.m. to 7 p.m.) plus 1-2 hours on the following day.
Materials: Large water container, cups. Paper plates and spoons, 1 or 2 hot plates, 1 or 2 kettles, ingredients for selected meals, materials required by the activities selected, personal inventory sheets.

Activity:
1. Advance preparation: Determine in advance how many people plan to participate. Based on the number participating, select a room which is slightly smaller than desired for such a group. Comfort and attractiveness are not important. Typical school or church classrooms are ideal.

How clearly the day needs to be described depends on the group. The minimum explanation necessary is the time frame with a commitment from each person to stay the entire time. Also, it may be explained that this will be an experiment to learn by experience what it is like to live in a society that is overpopulated and underfed. Further, the day will be spent learning about these things through a variety of methods. Some groups may warrant a full explanation, including an

agenda and menu for the day or may even participate in planning the day.

Participants should be instructed that promptness in arriving at the first session is important and that they should not have breakfasted before arriving.

2. Instructions upon arrival: Once the group is assembled in the room, basic ground rules must be established. These include:

a. Each person will be responsible for their own utensils throughout the day; there will be no extras.

b. None may leave the room during the day except to go to the restroom, and then only one at a time. A large key or similar symbol may be hung by the door and carried by anyone leaving for the restroom, so that it will be clear when that privilege is available.

c. Two people will be selected to leave to clean up the cooking utensils following each meal (by noon, the number of volunteers will be overwhelming).

15 minutes (7:00 a.m.-7:15 a.m.)

3. Breakfast should be minimal, and may be overlooked completely. It may consist of a single slice of bread and water.

15 minutes (7:15-7:30)

4. The next four hours (7:30-11:30) should be taken up with program activities planned by the leader. Members of the group should be asked to complete the first column of their personal inventory sheet about mid-way through the morning and the second column at the end of this period.

5. Lunch should be served about noon. During the ½-hour prior to lunch, selected individuals will be involved in the preparation of the meal. The remainder of the group will have the problem of dealing with the time on their hands and the lack of a place to go to get away from the crowd. The mood of the group will range from relaxed reflection to impatient hostility.

30 minutes (11:30-12:00 noon)

6. An ideal lunch would be CSM, which is described in activity number thirteen. While the group probably should be allowed all they want, it is doubtful that they will eat their fill.

30 minutes (12:00-12:30)

7. The afternoon program will last for 5 hours (12:30-5:30), again with activities scheduled by the leader. Personal inventory columns 3 and 4 should be completed about 3:00 and 5:30.

8. Preparation for supper should begin about 5:00, while the program is going on. Ideally, this could be some kind of rice meal with a small bit of meat and flavoring added. If an attractive aroma can be achieved, so much the better. Again, the ½-hour lag from 5:30 until supper at 6:00 is a useful interlude. The meal this time should be limited in quantity, but a sensitivity to the group feeling is important. However, members should not go away with a full feeling in any case.

30 minutes (6:00-6:30)

9. Debriefing: The main purpose of this debriefing is to arrive at some "feeling" level responses. It is probably wise to save some of the more substantive debriefing until a later meeting--preferably the next day. Suggested springboards for discussion:

a. How do you feel about this room?

b. Did you find a greater desire to use the restroom as an excuse to leave the room as the day wore on? Did some use the excuse to exit and do something else?

c. How did your feelings change toward those around you?

d. Do things bother you now that don't usually? What?

e. How do you feel toward me, the leader? (be thick-skinned on this one, and recognize where the response is coming from)

f. How many felt more lethargic as the day went by? More alert?

g. What was your most pressing desire at 5:30?

h. What, if any, types of conflicts developed among group members during the day?

i. What do you plan to do first when you get home?

30-60 minutes

10. Secondary debriefing (a subsequent day)

First, have the group fill out the 5th column of their personal inventory. It is now important to get into more substantive kinds of issues, but this may work best with some reassessment of the end-of-day questions in perspective.

Suggested springboards for discussion:

a. What did you do first when you got home?
b. How did you feel about coming back to this room?
c. How much change took place in your personal inventory sheet through the day? Between the four columns and today? Further investigation of specific items would be helpful here. Ask the group to point out items that had great changes or very little change.
d. Can you express your present general feelings toward the day?
e. How might these compare with those of people living in those conditions? How might they differ?
f. What are the long-range effects of living in these conditions?
g. How could these people be expected to respond to Americans or other affluent peoples? What attitudes do they probably have toward affluence?
h. As poverty-stricken nations attempt to cope with their problems, what policies might be effective?
i. What policies could these nations be expected to have toward the U.S.?
j. What policies might the U.S. adopt toward these nations?

PERSONAL INVENTORY SHEET

Answer each of the following questions in the column designated by your leader. Confine your responses to one or two words.

	1	2	3	4	5
1. In general, I feel _____.					
2. My attitude toward those around me is _____.					
3. This room is _____.					
4. The program so far has been _____.					
5. Right now I would like to _____.					
6. My level of concern for people actually living in the conditions we are attempting to simulate is _____.					
7. If I could change one thing in this day it would be _____.					
8. The best thing about today is _____.					

Title: Rich Nations/Poor Nations (by Richard Schweissing)

Introduction: It is extremely difficult for people of an affluent nation to either generate empathy for the dilemma of hunger faced by most of the world's people or to identify with the feelings of animosity persons in poor and hungry lands have for the affluent nations. An activity that generates these feelings within a group of people will go a long way toward developing the kind of attitudes necessary to motivate people to search for solutions that will alleviate the world hunger problem. This activity is designed to create a simulated confrontation between the "haves" and the "have nots."

The concept of conflict/conflict resolution is most directly the target of this exercise as the group is divided between rich and poor, and various means are applied--or ignored--to create equity.

This activity is conducted in conjunction with other appropriate activities of the leader's choice. The group is randomly assigned as rich or poor at the beginning of the session without knowing their role. They then pursue the other activities planned by the leader while two kettles of food are heating on hot plates at the back of the room. Following the activities the group is fed. A small number who comprise the "rich" group receive large portions of a tasty meal while the bulk of the group, those randomly assignated "poor," receive limited portions of a rather tasteless meal.

The leader needs to select another activity for the group to do while the food is cooking. It could well be another appropriate activity from this packet. Ideally, it would be an activity focusing on food shortages in the world.

Lesson Objectives:
As a result of completing this activity, individuals should be able to:
1. Describe the feeling created by having little in the presence of abundance or vice versa.
2. Suggest potential responses by poor nations toward the affluent nations.
3. Articulate policies that would lead to better relationships between rich and poor nations.

Mechanics:
Teaching time: One hour, in addition to other planned activities
Materials: Cards containing random numbers. No more than one card with a number below 10 for each 15 people. Plates and spoons for everyone. Food as described in the activity in sufficient amounts along with two kettles and 2 hot plates.

Activity:
1. This activity will be most effective if it is scheduled at a customary mealtime, when participants will experience the effects more significantly.
2. Before the group arrives, prepare two kettles of food which preferably will need later only to be heated. One kettle should be CSM (see included recipe) in a quantity sufficient for about one cup per person in the "poor" group. The other kettle should contain a stew or casserole that is virtually a complete meal and will give off a tantalizing aroma while it is heating. The food should be heating throughout the session, but the group should not be permitted to investigate, which may be easier if the kettles are not turned on until the group is in and seated.
3. As the group arrives, ask each person to draw a card. Explain that this card is their meal ticket and they will not be served if they don't have it.
4. Proceed with the other activity, which should take about an hour.
5. By the time the activity is over, the aroma from the food should have everyone hungry. Ask them to line up so they can pick up a plate and utensils before passing the kettles, with their meal tickets ready since they determine

which menu is served. As they submit their meal tickets, those with a number of 10 or more will be served a cup of CSM. Those with a number less than 10 will be served from the pot of tasty food.

6. While people are eating, the leader should carefully observe the activity and discussion. When people have had ample time to eat (and the rich may even be allowed second portions) a debriefing of the experience should take place.

7. Debriefing: This section is largely contingent upon what happens during the meal. Did the rich share? How did the poor treat the rich?

Some suggestions to use as springboards for discussion are listed below. However, a sensitive leader will move from them to other areas raised by the group. Also, the leader may want to ask specific individuals to explain comments or actions they took that are not anticipated in the following questions:

a. To the poor--How did you feel when you saw what you had for a meal? How did feelings compare between those served before any of the rich and those served after the rich?
b. Once it became apparent the menus were radically different, how did those not yet served feel as they approached the server?
c. How did the rich feel when they discovered which group they were in?
d. How did the rich feel once they began eating in the midst of the poor? Or if they sat apart, why?
e. Why did the rich choose to share--or not share?
f. How did individuals of each group feel toward the others?

Ultimately, the leader must keep in mind his ultimate goals for the session, and, while individual groups will wander from the above questions to deal with their own unique experiences, the group should eventually be pulled back to the following:

a. What was realistic about the experience? What was unrealistic?
b. Was there a better way to deal with the problem?
c. How are our actions comparable to policies between nations?
d. How could these policies be improved?

A Suggestion---------- Why not substitute CSM for the regular lunch at your school or business and send the saved $ to the world's hungry through an organization of your choice. One such organization is UNICEF, 331 E. 38th St., New York, NY 10016.

CSM

(BLENDED FOOD PRODUCT, FORMULA NO. 2):

WHAT IT IS:

CSM is a mixture of 64% processed (precooked) cornmeal, 24% toasted defatted soy flour, 5% nonfat dry milk, with added oil, vitamins and minerals. It is a highly nutritious supplementary food, particularly for infants and children in a low protein status. The calorie value of CSM is about 1698 calories per pound. It contains 20% protein and the Protein Efficiency Ratio (PER) is 2.48, compared with 2.50 for casein. CSM is almost completely precooked. It is bran-free, bland in flavor, and smooth in texture.

WHAT IT DOES:

CSM may be used to prepare simple soups and gruels, or porridges. CSM may be baked, fried or steamed. When mixed with water, CSM forms a smooth dough. CSM can also be prepared as a dessert or beverage.

GENERAL INSTRUCTIONS:

Always mix CSM with *cold* water. It is best to first place the water (with salt to taste) in a bowl, and then slowly add the CSM while stirring. Cooking time for soups and gruels will be from 2 to 8 minutes at sea level, depending upon the size of the cooking utensil and the heat of the fire. *Always continue stirring while CSM is boiling.* Cook until smooth. Consistency may be varied by increasing or decreasing amount of water used.

RECIPES:

SOUP

1 cup CSM
6 cups *cold* water
salt to taste
seasonings, vegetables, meat, stock

Place water in a bowl. Slowly add the CSM, stirring. Heat mixture to a boil, stirring constantly. Add other ingredients as available, to taste. Cook until smooth, from 2 to 8 minutes. If soup is too thick, add more water.

BEVERAGE

Follow instructions given for soup, but use 8 or 9 cups of cold water, depending on consistency desired. Add sugar and flavoring to taste. Serve hot or cold.

GRUEL OR PORRIDGE

1 cup CSM
4 cups *cold* water
salt, sugar to taste

Place water in a bowl. Slowly add the CSM, stirring constantly. Add other ingredients, heat to a boil, *stirring constantly.* If gruel is too thick, add more water. When mixture is smooth, remove from fire, and serve.

PUDDING

1 cup CSM
4 cups *cold* water
1 cup sugar
few drops vanilla or spices

Place water in a bowl. Add CSM slowly, stirring constantly. Place on fire. When mixture starts to boil, add sugar. *Continue stirring until boiling starts again,* cook until smooth, then remove from fire. Add vanilla or other flavoring. Serve hot or cold.

BASIC DOUGH INGREDIENTS

1 and 1/3 cups CSM
2/3 cup wheat flour
½ cup lukewarm water
½ ounce yeast + 1 tsp. sugar + ¼ cup lukewarm water

Title: What Can I Do? (by Anna Chung)

Introduction: The problem of world hunger is an extremely complex issue, which involves planning, production, distribution, and consumption patterns of food resources, among other issues. Management of food resources and the complexities of the decision-making process and power structure often tend to emphasize the "institutional" aspects of dealing with the question of food production and distribution, instead of with the very human side of the picture--the need to feed the world's hungry. In other words, the management of food resources and an attempt to provide for the world's hungry have become foremost issues of international concern and action, as well as increasing governmental involvement. A discussion of comparative "power" sources, or the relative influence of various governmental, national, and international agencies and related offices in implementing food policy, may at times overshadow the individual and community efforts that can contribute both to a clearer and broader understanding of the issue of food production, consumption, and distribution, and also to the generating of concern and awareness of the complexity and urgency of the problem of world hunger, without which no possible solutions to the problem can be found.

Lesson Objectives:
After completing this activity, students should be able to:

1. Utilize critical thinking skills in determining individually and as a group possible means of expressing concern for, and awareness of, the issues associated with food distribution and consumption and world hunger.
2. Increase personal knowledge of the complex and multi-faceted issues involved and at stake in feeding the world's population--hence, realization that there are no easy answers or solutions to the world hunger crisis.
3. Awareness of the fact that one of the strongest weapons the individual possesses in dealing with the hunger problem is the ability to become concerned, aware, and involved, working from the assumption that something positive can be done by the individual to alleviate the problem of global hunger.

Mechanics:
Teaching time: One class period for discussion of possible activities which participants could undertake to express concern for the hunger problem, and increase their knowledge of its complex nature.
The time to be alloted for carrying out the activities will vary with the size and background of the group involved, number and nature of activities undertaken, and availability of materials and resources for completion of the activities.
Materials: Duplicate copies of the list of suggested activities entitled, "What Can I Do?", for each student (participant), to be distributed at the discretion of the group leader, or teacher.

Activity:
Step 1--Tell students (participants) they are going to look at and discuss some possible means of expressing concern for the issues of world hunger and food distribution, and attempt also to gain a more complete understanding of some problems associated with the distribution of food resources. Mention also that even though the possible expressions of concern participants name may be somewhat artificial to the extent that they are not being generated in an actual policy-making siutation, it nevertheless is a first step in finding solutions to an urgent problem to determine in what areas the individual, or several individuals working as a group can become more concerned, aware, knowledgeable, and involved. In fact, these characteristics on the part of the individual are necessary before any answers to the hunger problem can be determined.

Step 2--Discuss with the group some possible ideas as to activities which could both generate a concern for the problem of world hunger, and increase knowledge and awareness of the issues connected to the hunger and food distribution problems. This ideally could take the format of a brainstorming session, in which all ideas generated are listed on a board, or perhaps a transparency if an overhead projector is available. Once student thoughts and suggestions are listed, they should be discussed in light of some guidelines for carrying through the activities. Possible ideas for discussion:

1. What is the purpose of the suggested activity? What does the group hope to accomplish? Will it increase participants' knowledge and awareness of the hunger problem?
2. Can the suggested activity be effectively undertaken, given the group's resources, background, number of participants, possible time allotments, and other logistical considerations?
3. Can the results of the activity be evaluated by participants?

A list of suggested activities which deal with increasing knowledge of, and concern for, the global problems of hunger and food consumption and distribution is included with this activity. Should students require some "starters" as a preliminary to generating their own ideas and activities, these would be useful to propose to the group. The activities could also be used in a supplementary fashion, with activities suggested by participants.

Step 3--After completing the activities, the group will want to discuss their ideas and thoughts concerning the content and results of the activities. Although discussion questions and issues to be raised will vary with the activities to be completed, a few general issues may be considered as discussion guidelines for whichever activities are undertaken:

a. Did the activity aid participants in gaining a clearer understanding of some problem or issue associated with the distribution of food, and the feeding of a given group of people, or a given population?
b. Were participants able to identify some concern associated with the problem of world hunger, and perhaps able to better understand and empathize with the complexities of the issue of hunger?
c. Emphasis in the activity has been on the fact that it is possible for the individual to become more aware of and concerned about the hunger problem, and express this concern in a variety of ways--as an individual, and as a group. How were participants able to express this concern?

Other questions for discussion should be geared towards the specific activities to be completed by the participants.

"What Can I Do?"

1. Organize a "Week of Concern" to deal specifically with the expression of concern for World Hunger, In order to make the week a meaningful one, it is suggested that participants write organizations that are involved in the hunger issue (a list of organizations which provide materials on food/population is included at the end of the activity).

2. Since it is often effective to study one's own immediate environment or situation to become aware of the complexities of an issue or problem, investigate how food is prepared and served in your home, from meal planning and marketing to actual preparation and consumption of the food. This is a food distribution system, albeit on a relatively small scale, in itself. How is the family food budget prepared? Can you make any inferences about the importance of nutrition and a balanced diet from this activity, as well as the importance of meal planning in itself? How important are the availability of food resources, an adequate budget, and the knowledge and freedom of choice to maintain conscious control of the family food distribution system, providing adequate and beneficial satisfaction of the family's nutritional needs? What may be the situation in countries whose populations have much less choice in the determining of their diet, and fewer financial resources, as well as less variety of foods, from which to plan or ensure an adequate diet nutritionally? In other words, there may be less conscious choice in individual consumption of food. How is this point important on the global level? (The latter topic may be an effective topic for a short essay or theme to be completed by participants after the conclusion of this particular activity, and can be shared with the entire group).

3. Based on the background gained from the above activity (#2), participants might examine a somewhat more complex food distribution system, again from the budgeting and planning stages, to purchasing and preparation, and finally distribution and consumption of food sources. Suggested study areas include a local school or hospital. Again, emphasis should focus on the logistics of food distribution, planning, and consumption, and the importance of meal planning, nutrition, and provision of an adequate diet. Key elements are choice, variety and availability of food resources, availability of financial resources for meal planning and distribution, and the role of technology in ensuring adequate and sufficient nutritious food in the diet.

4 Investigate nutritional problems that exist in the neighborhood, community, or city. Are there areas where the nutritional value of food for low-income families is very poor? What types of programs have been initiated for the distribution of more nutritional and better quality food among the poor, disadvantaged, and low-income people of the city or community? (It would be particularly helpful for students to study the Food Stamp Program handled by the Welfare and Social Services office of the state and city governments. In speaking to personnel involved in the programs, students should become more aware of the complexities involved in the distribution of food resources, and empathize with the needs of the hungry--the providing of a nutritional diet for the poor and disadvantaged.)

Circulate a pledge entitled, "Freedom From Hunger Food Pledge," to be mailed to the American Freedom From Hunger Foundation. A part of expressing concern for the hunger problem is the realization that all individuals have a right to as nutritional a diet as possible. The formulating and signing of a pledge to this effect indicates the desire to help implement the goal of a nutritional diet for all in as many ways as possible. This can begin on the individual

level, and expand to the community level.

6. Write letters to your Senators and Representatives expressing concern about the problem of world hunger. Such questions as emergency food aid, technical aid to improve the agriculture of developing nations, and trade bills relating to the developing nations are discussed in Congress. Through an expression of your concern you are in a position to influence legislation, via legislative channels. You might also inquire as to the positions of your Congressional representatives on issues such as mentioned previously (i.e., food aid, etc.).

7. Increase uour knowledge and awareness of the issues associated with world hunger and the distribution of food through reading the materials available in these areas. Your library may have books on hunger, as well as a bibliography of further resources. The American Freedom From Hunger Foundation also has made available a bibliography on food distribution and hunger. You might wish to set up a literature table with materials that can be requested and obtained from the organizations listed on the last page of this activity. These can also be sources of information and literature to enable participants to increase their knowledge of the hunger issue. A literature booth or table can be set up at a church, shopping center, or library in the community.

8. Participants might also draw posters dealing with the theme of world hunger and the related theme of interdependence, or perhaps write a brief essay on a similar theme.

9. Maintain a bulletin board for the posting of information and new materials on food/hunger issues, as well as ideas for activities in these areas suggested by students. Encourage participants to contribute results of activities, essays and themes, articles found, or other materials to the bulletin board, which ideally can become a "clearing house" for information and ideas on food and hunger issues.

10. Role-play--as a follow-up to the acquisition of materials and information on the issues of world hunger and food distribution/consumption, participants might simulate a conference international in scope, convened to discuss the problem of world hunger and related issues, as well as examine suggestions that have been put forward to alleviate the problem. This is an opportunity for students to share the knowledge they have gained from their own reading and research, as well as discussions held in class, and clarify their understanding of the materials they have examined. Students should also become more aware of the complex nature of the hunger issue, particularly on the international level, as well as the related <u>interdependence</u> of nations in dealing with the problem. Participants may take the roles of international representatives to the conference (from both the developed and developing nations), and groups which have a stake in the food/hunger question--labor, agriculture. commerce, etc. The interdependent nature of the hunger problem itself should become obvious when it is realized that there are many interest groups which are involved in the distribution of food resources, and therefore have a stake in the finding of any possible answer to the problem of feeding the world's hungry. Participants will also realize that there are no easy solutions to the problem, and no one nation or group which can hope to find a solution or solutions to this global concern.

ORGANIZATIONS WITH INFORMATION ON FOOD

Agency for International Development, Office of Public Affairs, Department of State, Washington, D. C. 20523

American Freedom From Hunger Foundation (AFFHF), 1717 H Street, N. W., Washington, D. C. 20006

American Universities Fieldstaff, 3 Lebanon Street, Hanover, New Hampshire 03755

Center for Teaching International Relations, Graduate School of International Studies, University of Denver, Denver, Colorado, 80210

Center for War/Peace Studies, 218 East 18th Street, New York, New York 10003

Food and Agriculture Organization (FAO), Freedom from Hunger/Action for Development, Via delle Terme di Caracalla, Rome 00100, Italy

Foreign Policy Association, 345 East 46th Street, New York, New York 10017

Management Institute for National Development (MIND), 230 Park Avenue, New York, New York 10017

National Council for the Social Studies, 1201 16th Street, N. W., Washington, D. C. 20006

Overseas Development Council, 1717 Massachusetts Avenue, N. W., Washington, D. C. 20036

U. S. Catholic Conference, Campaign for Human Development, 1312 Massachusetts Avenue, N. W., Washington, D. C. 20005

U. S. Committee for UNICEF, 331 East 38th Street, New York, New York 10016

World Bank Publications, 1818 H Street, N. W., Washington, D. C. 20433

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Title: Baldicer (Simulation Game) Available on loan from CTIR or obtainable from Social Studies School Service, 10,000 Culver Blvd., Culver City, Calffornia 90230, $25.00.

Introduction: Baldicer is a simulation game that deals with food production and distribution. It is designed primarily to stimulate interest in the complex problems involved in feeding the world's population in an age in which we have the technological skills to accomplish such a task, but have not done so. The objective of Baldicer is to enable the participants to better understand international economic interdependence. In addition, after the game participants will better understand specific issues such as the population explosion, unequal distribution of resources and technology, inflation, and competing syles of economic organization. Ethical issues will undoubtedly be raised as participants relate their behavior in the game to the ethical convictions they hold.

Interdependence is the key concept in this game. Any solutions to the dilemmas which are raised are limited to cooperation between players (i.e., countries). Only a few countries have a chance to "win" on the strength of their own resources.

Briefly, Baldicer consists of an introduction, several rounds of play, and a debriefing session. During the game, individuals become food coordinators for a different nation, each of which possesses amounts of Balanced Diet Certificates (Baldicers) to feed the population. The players can earn more Baldicers, borrow or trade for more, and must accept the consequences of natural disasters and unexpected windfalls. The key to the game is a tally sheet on which all transactions and events are recorded.

If the group leader has not played Baldicer before, he or she should try a couple of rounds in order to get a feel for the process before presenting the game to the group.

Lesson Objectives:

After participating in this simulation, participants should be able to:

1. Explain why the food/population equation can be solved only through cooperation.
2. Articulate some of the moral questions involved in making food policy.
3. List some of the factors that prevent underdeveloped nations from achieving stability alone.

Mechanics:

Teaching time: 3-4 Hours

Materials: One Baldicer kit is sufficient for 20 players, which is an optimum number for play. If more players are involved, additional kits will be needed, or some of the materials will have to be reproduced. Two leaders should run the simulation. Two leaders are particularly important at the junior high-level, while one leader may be satisfactory at the senior high and adult levels.

Activity:

Prior to the game, the leader (s) should assign baldicers to the participants.

1. Begin the game by briefly describing its purpose. Then read through the participants' booklets with them. Ask that they reserve questions until the rules have been read completely so that they will have a fuller picture of the game. Caution them not to reveal how many baldicers they have been assigned until the game has started and they find it useful to do so. Distribution of baldicers may be done on a random basis or, if the group is young, on a selective basis, giving more baldicers to participants who are most likely to make advantageous use of them. The description of the game and description of baldicers should take about 10 minutes. Explain that the game will become clearer as it is played, and that

the group will "walk through" the first round slowly so they can analyze what is happening.

2. The play: Begin the round according to the instructions in the game director's book. The first round should be taken slowly, and particular attention should be given to explaining the mathematical calculations. Until food machines have been purchased the number arrived at on line 7 can be transferred to line 12 with the intermediate lines being skipped. In the first round, after a food machine is purchased, the director should carefully take the group through inflation calculation step by step. The first round will take about 40 minutes. Succeeding rounds will progress faster as the participants become acquainted with the game's format. The game can be terminated at the end of any round in which the participants have achieved a full sense of the hopelessness of their activity. Usually five to seven rounds will be required to reach this realization.

3. Debriefing: The critical part of any simulation is the debriefing. This is the time when the group analyzes what happened, and the members apply their experiences to the real world. Debriefing should take place on two levels. First, immediate frustrations and feelings should be vented. This gives the group an opportunity to express the feelings that are often expressed in somewhat different form, depending upon the nations represented. Some questions that will help the participants to bring out these feelings are:

a. How did you feel about your role?
b. How did poor participants feel toward the rich?
c. Did the rich experience uncomfortable pressures?
d. If you died, how did you feel about those who could have helped?
e. Did you have feelings that surprised you?
f. Do you have questions about how/why others did what they did?

The group members should be encouraged to interact with each other as they discuss their feelings. Other questions should be asked to draw out attitudes toward unique experiences or comments made during the game.

The second area of discussion should be more substantive and draw out understandings about the real world. Good transition questions are:

a. How was the game unrealistic?
b. How did the game reflect the real world?

In discussing "a" the leader (s) should emphasize the limitations of simulations and stress the need to separate these limitations from reality. The answers to "b" will then provide the basis for the culminating discussion as the leader enlarges on these realities and directs the group to discuss solutions. Answers to "b" should be listed on a board or flip chart so they will be visible during the remainder of the discussion. Conclude with discussion of some of the following general questions that are appropriate to the "b" answers or the objectives of the group:

a. Why did the poor not improve their condition? What alternatives do they have?
b. What responsibility, if any, do the technologically advanced groups have?
c. What kinds of organization were developed between the food coordinators? Does this game provide us with a new way of looking at our international alignments?
d. Are there ways to alleviate the threat of natural disasters? How?

1 Hour for debriefing.

Further Suggestions and Resources

The film, Population Explosion, provides an excellent introduction to this game, or can be used as a follow-up to clarify points made in the debriefing.

7.2

Title: Rice (Film, 25 minutes, B/W) Available from local office of UNA-UNESCO*

Introduction: Students of the world food problem will be better equipped to examine solutions to the problem, both immediate and long-range, if they understand something about the realities of the current situation. Such an understanding requires some knowledge of how and why people in areas of the world that are predominately hungry live as they do and what is being done to improve their condition. Ultimately, it means an appreciation of culture, religion, politics, and education, which is, of course, a massive undertaking. The film Rice does not pretend to accomplish these things. It does, however, bring to the group an example of life in a rural, poor village of Southeast Asia, and then shares the research being carried on by the International Rice Institute to assist these people in improving their life.

The concepts of change and interdependence are central to this film. Change is a key to any improvements in standards of living. Lack of change is graphically portrayed in its effects on the lives of the villagers. The interaction between people that is going on internationally to reach solutions to world problems is an excellent demonstration of interdependence.

The leader will find it helpful to have some background about the "Green Revolution."

Lesson Objectives:
After participating in this activity, each individual should be able to:
1. Suggest several reasons why people continue to live as their ancestors did without change.
2. Suggest ways in which technology could improve their standards of living.
3. Explain why current cultural norms may make it difficult for such people to accept change.

Mechanics:
Teaching time: One Hour
Materials: Film, Rice*

Activity:

1. Introduce the film by explaining that it is an attempt to show how some people in the world live and ways research and technology might be used to improve their standards of living.
Show the film. 30 minutes.

2. Following the showing of the film, a discussion on how such efforts might help alleviate the food problem is suggested. However, the information in the film points out that the solutions are not cure-alls. Therefore, it is important to also discuss the limitations of the approaches suggested and to search for additional factors which may make the program more successful. Suggested questions:

a. Why do people in the mountain villages continue to live as they do? What cultural factors have developed that may make it difficult for them to change, even if they could be shown other methods of farming would improve their standard of living?
b. Research is often slow and frustrating. What can be done while the research that will alleviate the villagers' condition is being carried out? What might be done to prepare them for changes that the research will make possible?
c. What responsibility does a developed nation have to the villagers' cultural mores that may prevent adoption of seemingly obvious solutions?

d. What alternatives are open to the villagers besides increasing food production if they are to improve their standard of living? What other problems must be solved concurrently if new farming techniques are going to be successful?
e. Do solutions for the village have applicability for nations or regions? What problems are magnified to achieve those solutions?

Other Suggestions:

This activity will compliment the "Food Power" activity, which examines how solutions to the food problem might be practically implemented.

*The film Rice may also be obtained from Nancy Milligan
Colburn Hotel
980 Grant St.
Denver, Colorado 80203

Title: Consumption Patterns (by Richard Schweissing)

Introduction: During the past hundred years humans have searched the entire globe in order to find the necessary resources to support themselves. As shortages develop almost daily, this search has been intensified, and many are seriously questioning how many people the earth can support. An even more pointed question is: "How many people can the earth support, and at what level?" To many people the problem of overpopulation is not how many people there are, but how much those people consume. This activity provides the group with sufficient raw data to enable it to examine these questions and to develop its own conclusions.

Interdependence is the key concept of this exercise. If the premise is true that there is a relationship between numbers of people, consumption, and the earth's ultimate capacity to yield necessary resources, then interdependence among people is unquestionable. Over-consumption by some people will ultimately deprive others.

Briefly, participants are asked to examine raw data from the attached chart, "Contrasts Between Selected Nations," and to develop some conclusions about how living standards, consumption, and population are related.

One additional statistic which is not included, but which may prove useful to the leader, is that while the population of the United States is only 6% of the world's total population, it consumes roughly 40% of the world's resources.

Lesson Objective:
After participating in this activity, each individual should be able to:
1. Interpret statistical data used in population charts.
2. Explain the relationship between affluence and consumption.
3. Explain what is meant by the statement: "U.S. population growth is the most serious growth problem in the world."

Mechanics:
Teaching time: One Hour
Materials: Enough individual copies of the chart "Contrasts Between Selected Nations" for each individual in the group.

Activity:

1. Briefly introduce the activity using the first paragraph of the introduction to this activity. Emphasize to the group members that they are going to be looking at the population explosion from a different viewpoint, that of consumption. Then pass out the charts.
5 minutes.

2. Begin by asking the members of the group what immediate conclusions they can make about consumption from the data on the chart. Encourage them to brainstorm their ideas, and to record them on a chalkboard or newsprint so that all members of the group can see what's been said. Some of the conclusions that will be immediately apparent are:
a. Consumption increases with affluence.
b. There is some relationship between life expectancy and affluence and/or consumption.
c. The poorer nations probably also have the least ability to improve their position.
10 minutes.

3. Once the group has exhausted its initial brainstorming and some of the above conclusions have been reached, encourage the group to move on to more substantive discussion. Suggested questions to use as springboards for discussion might be:

a. The consumption levels of the developed countries seem to increase rapidly. Should there be efforts to curb this growth? If so, can this be done, and by how much?
b. Is there a case for less consumption? How are the comparative life expectancy levels of Sweden, Japan, and the U.S. significant? Given the available data, what conclusions might one draw? (Here, it could be emphasized that consumption levels may reach a point beyond which they are counter-productive. What other data is needed to make this a more valid conclusion? Food consumption is one measure that is needed.)
c. How does the longer life expectancy of the higher consumers increase the burden these individuals impose on the world's resources?
d. How may those nations which consume more goods be considered to present the most serious population explosion problem, even though their numbers may be stable? (Population is relative to what the earth can support. Over-consumption or high consumption means that fewer people can be too many.)
e. To what extent are the demands of the more developed countries necessary? Ultimately, might these demands be beneficial to even the poorer countries? Is it possible that even the poorer countries might be hurt if consumption were decreased? Consider their sale of raw materials.

45 minutes.

Further Suggestions or Resources

This activity might well be preceded or followed by the activity "Calorie-Counting" or "Calorie and Protein Supply."

9:1

Title: Shopping--In the Developed and Developing Nations (by Anna Chung, CTIR)

Introduction: What to eat and how to obtain necessary foodstuffs are basic questions facing all peoples regardless of cultural, social, and economic background, In the developed nations, food has come to be taken for granted, to a large extent. Meal planning and the provision of a nutritious and varied diet have become, although to somewhat varying degrees, possible in the developed nations due largely to the technology which has made possible an efficient supply of a wide variety of foods for convenient purchasing. One need only browse through a supermarket in this country to realize the bountiful supply of foodstuffs conveniently accessible to the consumer to better understand the element of choice which results from these technological advancements. The developing nations do not enjoy the quantity and quality of food which developed nations have at their disposal.

Although the rising cost of food is of concern to the developed nations just as it is in developing nations, it is nevertheless good to bear in mind that the people of the U. S. spend less of their income proportionally on food than do the peoples of other nations. While we may speak of excursions to the supermarket, taking shopping as a matter of course in air-conditioned, attractively and invitingly-arranged, and well-stocked food stores providing all the essentials of a varied diet under one roof, the acquisition of food in many nations is one of the most important and critical concerns of daily life on which other activities hinge. It is not so much one aspect of a varied life but rather the central concern of daily existence. Thus food is a basic human need which must be satisfied, and shopping for foodstuffs is therefore a cross-cultural activity. But the methods and resources available to satisfy this need demonstrate the gap between the developed and developing nations of the world in dealing with a fundamental human need.

Objectives:
After completing this activity, students should be able to:
1. Discuss the comparative nature of food acquisition, understanding that food is a basic human need which supersedes cultural diversity.
2. Contrast shopping experiences in the developed and developing nations. Although a universal experience, shopping takes different forms and has a somewhat different meaning in the developed and developing nations.

Mechanics:
Time: 1 class period
Materials: copies of the reading, Developed and Developing Lands for each participant

Activity:
1. As an introductory step, it might be helpful to ask students to give some thoughts on their own food shopping experiences. What is a supermarket like? What are some of its primary or outstanding characteristics?

2. Mention to participants that they will now have the opportunity to discover what a shopping experience might be like in other nations. In particular, the acquisition of foodstuffs in the developed and developing nations will be focused upon. Although shopping is a cross-cultural type of activity, it is important to note that in addition to basic differences (e.g., a village market as opposed to a supermarket), shopping has a different meaning in India, for example, than it does in the United States. We tend to take the acquisition of food for granted--a drive or trip to a nearby supermarket will supply most, if not all, our food needs. Yet in a country such as India, or a Latin American country, food acquisition is an activity basic and crucial to daily life.

Distribute copies of the reading, Developed and Developing Lands to partici-

pants. Divide the group into teams of six. Each team should choose a country from the reading and read and discuss the section on that country as a team. In the teams, participants might focus on the following themes dealt with in each of the country readings:

a. How does the individual in each of the readings shop for food?
b. Can you draw any conclusions as to the variety and quantity of food available to the individual in each of the countries dealt with in the reading?
c. Is the individual in each reading able to obtain as much or as many foods as desired, do you think?

3. After teams have had sufficient time to read and discuss their readings, have each team select a person to read the section from the reading which pertains to their country and share the responses of the team to the discussion questions posed earlier to the entire group.

4. Following individual team presentations, the group might consider the following general ideas:

a. People in the developing nations must often compromise and make sacrifices--they do not have the greater financial resources of the developed nations which permit greater choice in the planning of meals and purchasing of foods available to them. Shoppers in the developed nations also must make compromises in selecting foods, yet there is a wider variety of foodstuffs available from which to make alternative choices.
b. With refrigeration facilities a once- or twice-weekly trip to the store for groceries suffices for many in the United States to keep an adequate supply of food on hand. When it is necessary to shop, grocery stores are designed to provide the consumer with everything from fresh fruits and vegetables to meats, an array of frozen foods, candy, and even scarves and socks. Shoppers enjoy modern, clean facilities with heating or air-conditioning provided for comfort. In many of the developing nations, on the other hand, shopping is done daily and frequently necessitates a lengthy journey to town or to the market.
c. We also enjoy a wide variety and quantity of food. In grocery stores, there are often 5 or more brands of a particular item from which to choose. With this variety in mind, it is not difficult to realize that it is easy to take quantity for granted. Many people in the developing countries do not have a wide variety of food from which to choose and take for granted that they will eat what they have always had available, however monotonous their diet may seem to us.
d. Do the developed nations often assume that their standards relating to a good and nutritious diet are common knowledge among all peoples? As the readings seem to indicate, the people in the developing nations take for granted the foods that are available to them. Many have never heard of a balanced diet; the family has always eaten whatever was plentiful and available to them, and it somehow suffices, despite the fact that the food may not be rich or even sufficient fare.

Title: A Look at Food In History (by Anna Chung, CTIR)*

Introduction: There is no doubt about the role and importance of food as a factor in history. Improved methods of food acquisition provided the major impetus to the development of the world's great civilizations. Indeed, the world's first civilizations originated on the fertile land bordering great rivers (China and Egypt being two obvious cases in point). If we work with the assumption that food is a basic human need, then it follows that it is an important historical theme. All too frequently, histories deal with themes such as war, diplomatic relations and negotiations between nations, and inter-state relations existing between wars. Yet by its very nature, history is the study of people, and a basic need of people is food.

Much of the importance in a study of food consumption habits is the fact that more than physical requirements are satisfied by food. It also plays a significant role in the social system at a given period of time, and has relevant psychological and sociological, as well as physiological, implications. To an extent, in other words, it is possible to gain greater understanding of a social and economic setting through an examination of the role of food in society at that time.

In this activity, participants will have the opportunity to examine an historical example of the role played by food in society and societal development. The particular case study dealt with here is the Middle Ages--participants will be encouraged to research another historical period of their choice, focusing on the role of food in relation to society at that particular time.

Objectives:

---Encourage participants to identify food as a significant factor in history--an important theme throughout history

---Identify a relationship between food and society (societal development) at a particular time in history.

---Focus on the development of research skills, to investigate the role of food at a given time in history

Mechanics:

Time: 1 class period for reading and discussion of the attached reading. Time outside class (or in class, with the entire group) for background research; one class period for presentation and discussion of research results

Materials: Copies of the reading, "What Did They Eat?--A Menu From the Middle Ages" should be duplicated and distributed to participants. Access to library facilities will be required also for the activity

Activity:

1. Duplicate and distribute copies of the reading, "What Did They Eat?--A Menu From the Middle Ages." This can either be read on the evening preceding the class during which it will be discussed, or in class. It is helpful to read and discuss the reading as a group. Have participants use dictionaries to define unfamiliar terms, and discuss these terms briefly.

2. Possible discussion questions relative to the reading might include:

a. How did increases in food production, due to improved farming methods and more efficient soil use, contribute to the growth and expansion of markets, and in turn to the development of cities and towns?

*The author is indebted to Reay Tannahill's Food in History (New York: Stein and Day, 1973), Chapters 11 and 12, which provided much of the background information for this activity.

b. What might the varied and ample menu indicate about the quantity and variety of food sources available during the period? Would increased trade and commerce affect the daily diet of the people of Western Europe during the Middle Ages? Did all classes share equally in the quantity and variety of foodstuffs available?

c. What might the sociological and economic importance of the emergence of two new classes (the merchant and the artisan) be?

d. What sort of relationship might have emerged between the producer of food sources (i.e., the farmer), and the non-cultivator and non-landowner, who was perhaps a merchant, or engaged in a craft? How might this relationship have been affected by the continued growth and development of cities and towns?

3. Mention to participants that they will have the opportunity to investigate a historical period of their choice to determine the diet of the people at that time, and the role which food might have played in society during the period. Library facilities will be necessary for research. If possible, it would be beneficial to obtain a copy of Food in History by Reay Tannahill, which deals with the role and importance of food in various historical periods, and its impact on society and societal development. The footnotes in the attached reading indicate bibliographical information for the book.

When students have had the chance to do some research, ask them to present the results to the group.

"What Did They Eat?--A Menu From the Middle Ages"

Introduction

Food occupied a place of importance in both social and economic terms in Europe during the Middle Ages. Food production was on the rise in this period, due to improvements in land use (the 3-field system of crop rotation was introduced), use of improved agricultural implements in crop production, and more efficient means of transporting foodstuffs from one area to another. As an example of the latter, grain supplies from the plains of Eastern Europe were important supplements to the diet of both rich and poor in Western Europe.

Food also played a role in the development and growth of cities and towns in the Middle Ages. With the rapid growth of trade and commerce, spurred both by an increase in food production and availability and an increasing demand for spices and luxury items which resulted from contact with other areas of the world (particularly the Middle East--the Arab world), two new and significant social classes emerged--the merchant and the artisan. Merchants established markets and trading centers, and with increased use of the horse as a means of transportation, peasants were able to make more use of markets, making journeys to the trading centers with produce and other crops to be sold in often less than a day or in a half-day. As markets grew in terms of size and activity, artisans and people engaged in various crafts often joined the merchants to form a small community. Thus with the growth of markets, towns and cities also expanded and grew. The merchant, artisan, and individual engaged in a skilled craft became integral figures in the social, and certainly in the economic, life of the Middle Ages.

In economic terms, markets often were primary sources of wealth for the emerging towns. Officialdom took an active interest in market activities--this is demonstrated in the case of distribution of grain supplies (grain was a staple in the general diet of the Middle Ages). As the "middle class," which did not engage in farming; and hence had no actual access to land, expanded, it became clear that in the event of a famine or other natural disaster which affected crop production (and hence the amount of food available), the non-cultivating and non-landowning class would be the first to suffer the consequences of a food shortage. To circumvent this to an extent, officials established grain reserves (or graineries) to meet the potential needs of people in the cities and towns.

The increased availability of foods (greater variety and quantities) is reflected in eating habits of the inhabitants of Western Europe during the Middle Ages. Food preservation and cooking techniques were improved during this period. That cooking must have been both important and demanding (in terms of time and amount of skill required) is seen in the following recipe for "pumpes" (meatballs in sauce), with no measurements or quantities specified for the various ingredients, unlike the case with recipes today, which have clearly specified amounts noted for ingredients:

> "Boil a good piece of pork, and not too lean, as tender as you may; then chop it as small as you may; then take cloves and mace, and chop forth withall, and also chop raisins of Corinth; then take it and roll it as round as you may; like to small pellets; then make a good almond milk and blend it with flour of rice, and let it boil well, but look that it be quite runny; and at the dresser, lay 5 pumpes in a dish, and pour the pottage thereon. And if you will, put on every pumpe a flower, and over them strew on sugar enough and mace; and serve them forth. And some

make pellets of veal or beef, but pork is best and fairest."[1]

The importance of dining as a social activity during the Middle Ages, particularly for the nobility, and the middle levels of society (e.g., the newly prosperous town merchant, country squire, or member of the minor nobility), is perhaps best understood in reading a menu such as would have been planned for a company dinner of the period. Entertaining and meals of considerable quantity and variety were hallmarks of dining at the middle levels of society. The following menu might have been prepared for a company dinner given by a Parisian merchant in 1393:[2]

First Course

Miniature pastries filled either with cod liver or beef marrow
a cameline meat "brewet"--pieces of meat in a thin cinnamon sauce
Beef marrow fritters
Eels in a thick spicy puree
Loach in a cold green sauce, flavored with spices and sage
Large cuts of roast or boiled meat
Saltwater fish

Second Course

"The best roast that may be had"
Freshwater fish
Broth with bacon
A meat tile (Pieces of chicken or veal, simmered, sauteed, served in a spiced sauce of pounded crayfish tails, almonds, and toasted bread, and garnished with whole crayfish tails)
Capon pasties and crisps
Bream and eel pasties
Blank Mang

Third Course

Frumentry (whole wheat soaked in hot water for several hours)
Venison
Lampreys with hot sauce
Fritters
Roast bream and darioles
Sturgeon
Jellies

Following a dinner or meal such as this, sweets were laid out, and spiced wines and wafers to "aid the digestion" served.

Little distinction between courses was made on this particular menu. We are accustomed to courses served in a particular order--soups, salads, main course (meat or fish plus accompaniments), and sweets. During the Middle Ages, however, everything was placed on the table at the same time, and guests selected from the many available dishes. The prosperity of the emerging "middle class," as well as

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[1]Tannahill, Reay. Food in History. New York: Stein and Day, 1973. Chapter 12, p. 218.

[2]Tannahill, Food in History, Chapter 12, p. 222.

the increased variety of foods available, was obvious in the well-stocked larders and amply laden tables of the period. Meals among the nobility were similar in nature to the above menu, but included more dishes in each course.

An yet, as is true in any other historical period, the meals of the peasant, artisan, or person employed in a craft, whose work largely supported the middle and upper classes, were sparse and meager, consisting largely of dark rye or barley bread, a broth of beef or some other meat, and cheese or a bowl of curds. On feast-days, holy days, or special occasions beef, goose, or salt herring appeared on the table. These occasions were greatly anticipated, for they provided a welcome, even if rare, break in the monotony of the daily diet.

11:1

Title: Apples * (by Gary Smith)

Introduction: One quick way of encouraging students to examine models for distribution of scarce resources is outlined in this activity. The grocery sacks (see below for details) can represent any number of kinds of leaders--political candidates, lifeboat captains, spaceship captains, etc. The activity is written up as if the sacks stand for political candidates. The idea is to get students as involved as possible in considering value questions regarding the distribution of the apples.

Objectives:
To reach consensus on a method of distribution and articulate reasons for doing so to the rest of the class

To recognize that personal and cultural values play a significant role in determining which system of distribution groups of students will choose

To make analogies between the activity and distribution systems throughout the world

To recognize the complex nature of deciding which kind of distribution system would be "best" for a group of people

Time: one class period

Procedure:

Step 1 - Buy seven large grocery sacks and three large, juicy apples. Using various colored marking pens, draw faces on each of the seven sacks. Make each face as distinctive as possible. The open ends of the sacks should face upward.

Step 2 - With a marking pen, make a sign for each candidate based on the information on page 3. Be sure to print and to make each sign legible enough for the entire class to read. Then, place one of the signs in each of the seven sacks. (Each sign stand for the "platform" of one of the seven candidates.) It would be best to keep the sacks and signs in the order suggested on page 3.

Note: You might want to suggest the day before the activity that students not eat the day of the exercise.

Step 3 - Display the three apples and the sacks (signs inside) on a desk or a table in front of the room. Explain to the class that they are to decide on a distribution system for the entire group.

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*Developed from an idea suggested by Bob Clifton, Metro State College, Denver, Colorado

Step 4 - Introduce each of the seven candidates, one at a time, in the order given on page 3. As you introduce each one, take the sign out of the sack and read and show it to the class.

Step 5 - Break class into groups of four. Have each group reach consensus on one of the candidates. The seventh candidate, or the one with the blank sign, can be used for students to make up a platform. Each group should spend about ten minutes reaching consensus and preparing a one minute talk on the candidate they've chosen to support.

Step 6 - Allow time for each group to give their talks . After all groups have given their talks, you may wish to conclude the activity by taking a class vote on each of the candidates, then distribute the apples according to which candidate or idea gets the most votes. In any case, however the class decides to choose a distribution system for the entire group, you should let them follow through and actually distribute the apples in the manner chosen.

Discussion:

1. It has been an attitude of many Americans that other countries have trouble feeding and clothing their populations because they don't know or can't decide (or can't implement) an "adequate" distribution system. Which system of distribution would you suggest for them? Did the class, as a class, reach concensus on the ideal distribution method? (Students should see that there are no right answers to this human dilemma, that the U.S. has certainly not decided on a single best method, and that value questions are an essential component in making decisions regarding distribution.)

2. Which candidates might represent what kinds of political, economic and/or philosophical positions? (Possible answers: No. 1= Puritan ethic; No. 2= Hedonistic; No. 3=capitalistic; No. 4=Commune; No. 5="Food Bank" idea; No. 6=Marxist)

3. What other distribution systems can you think of besides those mentioned in this activity? (Possible answers: TRIAGE SYSTEM=divides needy countries into groups according to their needs for food and food aid. Under this system, some people are completely left out (the most needy) and receive no food aid although they need it. Its supposed benefit is that crucial food surpluses would not be wasted on nations or peoples who have no chance of survival. "LIFEBOAT" APPROACH=coined by Garrett Hardin, this idea has the apparent disadvantage of denying food aid to the needy in an attempt to save the rich nations. Its apparent advantages are that it does not endanger the rich nations in times of crisis and does not attempt the hopeless task of feeding everyone.*)

4. In what ways were the members of your class interdependent in their decision-making?

*Adapted from "Explorations in the Emergent Present," Robert Hanvey, INTERCOM, No. 77, p. 40.

Candidate No. 1

"I would give the apples to the three people in class who worked hardest during the year."

Candidate No. 2:

"I would go get some more apples until we had enough for a party."

Candidate No. 3:

"I would sell the apples to the highest bidder."

Candidate No. 4:

"I would divide up the apples equally so that everyone in the class would get an equal amount."

Candidate No. 5:

"I would save the apples until we really needed them."

Candidate No. 6:

"I would give the apples to the three hungriest people in class."

Candidate No. 7:

BLANK SIGN

12:1

Title: "Food: Will There Be Enough?" (Adapted from Teacher's Guide by Richard Schweissing.)
(Filmstrip, 2 parts, 30 minutes total)*

Introduction: A race is on in the world today between food and population. In countries like Canada and the United States, most people receive an adequate diet, and population growth, according to recent estimates, is nearing equilibrium. Although pockets of hunger still exist in economically developed, industrialized societies, the bulk of the food/population problems exist in the developing nations of the world. In these countries, hunger, malnutrition, and soaring birth rates are commonplace--indeed, a way of life--and it is only recently that attempts to come to terms with these problems have had any promising results. This kind of a filmstrip program creates an awareness in audiences of the nature and severity of worldwide food problems, with urgent implications for even the best-fed societies; introduces students to the causes and effects of the world food shortage; and acquaints them with agricultural programs and technological progress that hold promise for the future.

The main concept developed in this activity is interdependence, which pervades the purposes described in the preceding paragraph. Indeed, it is virtually impossible to look at the basic data on food without becoming aware of the interdependent nature of the problem. The nations that are well-fed see the effects of the food shortage already in the rising cost of food. Solutions suggested in this filmstrip and by experts around the world indicate the need for cooperative effort in research and production--a practical application of the concept of interdependence.

This lesson is essentially a means of disseminating facts and information about the world food situation with appropriate discussion to clarify values and understandings following the audio-visual presentation.

Lesson Objectives:
After viewing and discussing the filmstrip, each individual should be able to:

1. Make a brief oral or written statement explaining the seriousness of the problem of feeding a rapidly increasing world population.
2. Identify at least three causes of food shortages and give at least one reason why many countries produce little in the way of high protein foods.
3. Discuss more effective long-range plans for preventing famine than reliance on emergency grain shipments from one part of the world to another.
4. Define and explain the Green Revolution.
5. Name at least one experimental plan that provides hope for increasing world food production.
6. Explain what part the sea can play in providing high protein foods, both now and in the future.

Mechanics:
Teaching time: 2 hours
Materials: Filmstrip kit, "Food: Will There Be Enough?" *

Activity:
This lesson is designed to carry the group from a specific understanding of the problem of world hunger and the food shortage worldwide to a general articulation and understanding of how it fits into the pattern of human life. Therefore the format overview is as follows: (1) Show the filmstrip, (2) Discuss some specifics about the filmstrip, and (3) Discuss general topics related to the problem presented in the program. The first two activities should be completed in the first hour, and the third during the second hour. The leader should not hesitate to reshow clips of the filmstrip at any time it may seem appropriate in clarifying a point.
Specific format:

1. Show the filmstrip. 30 minutes

2. Following the filmstrip presentation, specific questions about the filmstrip should be raised to ensure understanding of the material. Suggested questions:

a. What are some of the effects of malnutrition in children?
b. What is the present population growth rate worldwide? Where is this growth most rapid, and critical to the quality of life?
c. What are some reasons for food shortages?
d. What must solutions to the food problem in the long-run include to assure real answers?
e. What is the Green Revolution?
f. In addition to solving the problems of better grain variety production and improvement of farming methods, what other solutions are being considered?
g. Assuming that the question of food production is solved, what are related problems which also prevent the provision of an adequate diet worldwide?

The above questions should be guidelines in determining the level of understanding by the group of the filmstrip. Other questions to focus on specific goals of the group should be added, if needed, and also questions arising from obvious misunderstandings. 30 minutes.

3. The second half of the discussion should deal more in the problematic area. The specific topics for discussion will depend on the particular goals and objectives of the group. If there is a desire to accomplish several goals, the group may be divided into sub-groups which would discuss separate topics and then report their conclusions to the entire group. Be sure to allow adequate time for reporting (5 minutes) if this format is used. Suggested topics for discussion:

a. Discuss birth control and family planning as a solution to the world food problem. Consider the scientific and sociological feasibility of such programs and their viability on moral and cultural grounds.
b. What environmental dangers may emerge if people attempt to control the weather for agricultural purposes? Are these risks outweighed by the potential beneficial results?
c. If a certain method of food gathering or a certain method of production feeds more people but endangers the environment, what criteria would you use to determine whether or not it should be used?
d. What cultural patterns have developed around eating? How do these help or hinder solutions to the food problem?
e. Consider how several large corporations, such as Ford, Prudential Life, Dow Chemical, Prentice Hall Publishing, Michigan State University, National Broadcasting Company, and others might contribute to agro-industrial planning.

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*Filmstrip available from Prentice-Hall Media
150 White Plains Rd.
Tarrytown, New York 10591

Fee: $45.00

Title: Calorie and Protein Supply (Adapted from Intercom #78 by Richard Schweissing)

Introduction: Starvation is only part of the problem caused by the scarcity of food and the inability to adequately distribute food which is available. A less publicized but equally critical problem is the effect of malnutrition on those people who do not quite starve to death, but live near the brink of starvation for most of their lives. While death ultimately may not be directly attributed to starvation in these cases, life expectancy has been shortened due to malnutrition. Susceptibility to disease in such conditions is also much greater. Finally, physical and mental damage caused by insufficient protein in preschool children is irreversible despite subsequent diet or medical care. These victims of malnutrition are a major concern to the world not only because they are suffering, but because they represent a legacy of human life that is not consistent with what we usually consider acceptable standards of living. This exercise is primarily an informative one to help individuals become aware of the extent of the malnutrition problem in the world.

The main concept developed is perception/misperception. An effort is made to guide individuals in confirming valid perceptions of the world hunger situation and exploding existing misperceptions.

Briefly, this activity relies on interpreting data from a bar graph about human calorie and protein consumption patterns in the world. This information is then used to draw conclusions about existing needs.

Lesson Objectives:

After completing this activity each individual will be able to:

1. Use a simple bar graph providing population data.
2. Name several areas of the world where malnutrition is clearly a significant limitation to human development and several areas where most of the population receives an adequate or better diet.
3. Explain possible limitations of using data of this nature.

Mechanics:

Teaching Time: 30 minutes

Materials: Calorie and Protein Supply graph for each student (attached)

Activity:

Pass out the graphs and ask the group to study them. Point out the amounts required for the average daily adult diet (see background notes at bottom of graph) and then ask the group to answer the following:

1. Can we assume from the graph that everyone in North America and Western Europe are adequately fed? If we know from general knowledge that there are significant exceptions to the pattern portrayed about the U.S., what similar conclusions can we draw about some of the areas that clearly show dietary problems

on their graph? (Some people eat much better than others.) Can the full implications of problems be determined by the data available? What additional information may be needed?

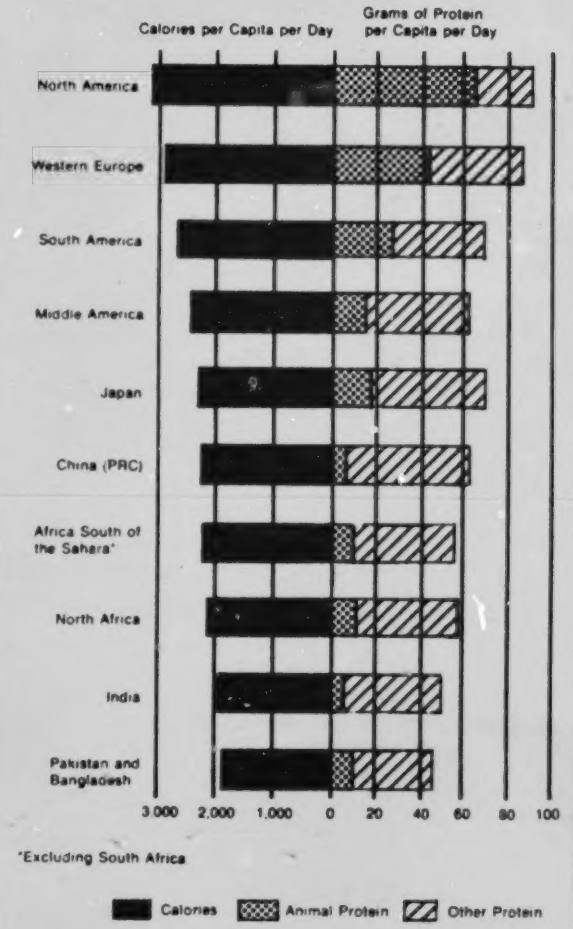
2. Recognizing the limitations of the data provided, there are still many conclusions that can be drawn. What areas of the world have clearly the greatest dietary problems? Does this coincide with rapidly growing populations? (Yes) What prospects exist for the future given the above two answers?

3. What other significant information can be learned from the graph? Consider the proportion of animal protein consumed to other protein. What may be some reasons for the differences? Religious taboos are an obvious answer. An equally important answer to articulate is the costs of raising animals for consumption. Poorer nations simply cannot afford to feed cattle food that can be readily consumed by humans, giving them greater total food quantity than the final grain-fed animal product.

Future Suggestions:

The group may be motivated to do some research on nutrition or invite an expert on nutrition to speak. Some important questions left unanswered by this exercise are: Is meat the best source of protein? What is an adequate balance between meat and vegetable protein? Are Americans really better off because their consumption exceeds the required amounts?

Calorie and Protein Supply, Selected Areas



Source: Food and Agriculture Organization, **Provisional Indicative World Plan for Agricultural Development**, Vol. 2 (Rome, 1970), p. 491.

NOTE: Average Daily Requirements

Calorie: 2700
Protein: 60 grams

Title: "The Great American Steak Religion" (by Loyal Darr, Denver Public Schools)

Introduction: The vast majority of the people of the United States are steak/meat eaters. It seems to be a distinct part of the American culture -- eating meat. In fact many Americans not only like meat but they "religiously" believe or at least accept "thinking" about meat that is actually myth rather than fact. Many Americans feel that because we eat a lot of meat that it is the best food for us by just about any standard that one wants to apply. Meat in fact is an excellent food by many standards but it is not the "everything" to everybody that so many Americans might think. One of the purposes of this exercise is to place steak/meat as a diet item in proper perspective and to encourage students to at least think about alternate foods to steak/meat as a nutritious source of food.

In this simple exercise students are given eight statements about steak/meat and asked to respond if they are fact or myth. Each of the statements repeat a common myth held by many Americans to be a fact about steak/meat. After students make and defend/debate their responses, then the fact about each myth is given to them.

Lesson Objectives:

After completing this exercise, the student should be able to

1. Distinguish fact from myth when given selected statements about steak/meat and plant foods.
2. Indicate that there are foods other than steak/meat which are nutritious.
3. Discuss ways in which Americans can be less wasteful when it comes to the choice of nutritious foods and adequate diets.

Mechanics:

Time: 1 class period

Materials: Student handouts entitled "Fact or Myth" and "Fact."

Activity:

1. Advance preparation: Duplicate the student handouts "Fact or Myth" and "Fact," one each for each student--make a few additional copies.
2. Pass out the student handout, "Fact or Myth."
3. Ask each pupil to mark each of the statements on the handout myth (if it is false) and fact (if it is true). 5-10 minutes
4. Divide the class into groups of 4-6. Ask each group to elect a chairperson. Give the chairperson of each group a blank handout, "Fact or Myth."
5. Assign each group to discuss and come to a consensus on a group completed handout. (10-15 minutes)

6. Have each chairperson report on his group's responses. (The teacher may want to organize the responses on the chalkboard.)

7. Pass out the student handout, "Fact." Debrief the activity by discussing the general role of steak/meat in the American diet and the fact that we as a people are probably quite wasteful in this regard and that there are other foods which are just as nutritious, if not more so, as steak/meat. (10-15 minutes)

Further Suggestions: Discuss whether or not as a nation we should export more steak/meat and eat more kinds of other foods. Would this help the world hunger/food situation? If so, why and how? If not, why not? Discuss other ways our eating habits--diets, etc., might be related to world hunger. What should be our relationship to the "hungry" nations of the world?

"Fact or Myth"

_____ Meat contains more protein than any other food.

_____ Eating lots of meat is the only way to get enough protein.

_____ Meat is the sole source of certain essential vitamins and minerals.

_____ Meat has the highest quality protein of any food.

_____ Because plant protein lacks certain essential amino acids, it can never equal the quality of meat protein.

_____ Plant-centered diets are dull.

_____ Plant foods contain a lot of carbohydrates and are therefore more fattening than meat.

_____ Our meat-centered diet is more nutritious than the poor world's.

Title: Food For Thought (by George Otero)

Introduction: It is difficult and often impossible for people who have never felt more than between-meal hunger pangs to really empathize with people either starving to death or suffering from malnutrition. Yet there are experiences that can be uitlized in the classroom to help demonstrate some of the attitudes experienced by people in a world with uneven food distribution. This activity simulates such a situation.

Lesson Objectives:

1. To demonstrate how it feels to live in a world where some people have most of the food and most people have only a little food.
2. To have participants verbalize their feelings while playing the role assigned to them.
3. To decide ways to change the situation simulated.

Mechanics:

Time: 1 class period for discussion and 1 lunch period
Materials: Each participant provides a sack lunch for himself.

Activity:

1. Tell the class that you want the class to spend lunch together one day so that you can show them a special group experiment related to food. (This is a gimmick to get the students interested in attending the session.)

2. Ask each student who plans to attend to bring a sack lunch that they think a person would enjoy eating. Mention that this will be their lunch or a participant's lunch for that day. Have each place his name on the sack so he will know which lunch he prepared.

3. As students enter the place (inside or out) where you are having the lunch, collect the lunches from the students explaining that you want to discuss something with them before they eat.

4. Mention to the group that you want them to discuss food distribution. Explain to them that food can be distributed to people in many ways.

5. Then tell the class you are going to demonstrate one of the ways food can be distributed using the class and their lunches. Tell them this is a simulation and there will be certain rules that must be followed.

6. Break the class into 5 groups: one group with 2 or 3 people, one group with 3 or 4 people, one group with 5 people, one group with 7 people, and one group with everyone else. Tell each group that they will receive a certain number of the lunches for their group. Lunches cannot be traded and they cannot be

given away. Each group can distribute the lunches in <u>their</u> group any way they choose. Give 3 times as many lunches to the people in group 1. Give 2 times as many lunches to the people in group 2. Give 1 lunch for each person in group 3. Give 3 lunches to people in group 4. Give 1 lunch to the people in group 5. Then tell the participants to eat lunch and you will talk about food distribution after everyone has finished. NOTE: If participants break your rules that is probably OK, but you should attempt to run the simulation so that many people get the feeling that they <u>are</u> <u>not</u> going to get to eat.

7. Then ask students to explain what they did and why. Tell them that this kind of distribution system is very similar to the way food is distributed in the world today. Which groups represented which areas of the world? Then ask the class whether they think the distribution was fair or unfair in the game. Then ask the class if they think food distribution is fair or unfair in the world today if it is distributed in a way similar to the game. Finally, ask the participants to suggest reasons that might answer these questions. What accounts for the way food is distributed in the world today? What ways could food be distributed in the world today?

<u>Further Suggestions</u>: Use other activities to test the participants hunches as expressed in answering the two questions. This testing can be accomplished by gathering and examining data that will help participants answer the questions.

Title: Needs (by George Otero)

Introduction: In this activity participants rate 18 items in terms of their importance to that person. Then the ratings are analyzed in relation to the role of food. Participants then discuss the relative importance food plays in their lives both directly and indirectly.

Lesson Objectives:

1. Students will identify the items of a list that are most important to them.
2. Students will examine the relationship between their goals and food.

Mechanics:

Time: 1 class period

Materials: Duplicate the student handout entitled "What's Best?"

Activity:

1. Hand out the ditto sheet titled "What's Best?" Have each student fill out the survey.
2. Tally the results and get some idea of the 5 most important items.
3. Discuss the relationship of food to the items. For example: To have have good health do you need food? Do you need certain kinds of food? Is a balanced diet easy or hard to get? Why do people want jobs? Is it to get food?
4. How many of the items on the top 5 or 10 are dependent or related to food? Do we tend to take food for granted?

Further Suggestions: Have students fill out the list for the poor, for people in other countries, or for people of different ages. What changes are there? Why? What relationship does food play in the ranking of the items for these other groups?

WHAT'S BEST

Listed below is a set of items. Your task is to rank, in order, these items in terms of their value to you, as you see their importance. Place the number 1 by the most important item, the number 2 by the second most important, and so on through 18, the least important.

Ranking	Items
_____	Telephone
_____	Job (unskilled)
_____	Job (skilled)
_____	Automobile
_____	Television
_____	Shelter (plumbing and running water)
_____	Ability to read and write
_____	High School Diploma
_____	Good Health
_____	Positive attitude
_____	Welfare
_____	Balanced diet
_____	Guaranteed income
_____	Family
_____	Friends
_____	Credit card
_____	$100
_____	Free transportation (to and from work)

Title: Insects: Fried or Broiled (by Nancy Miani)

Introduction: How many things, plant or animal, could we eat that we don't eat now? In this activity participants read about insects as food sources and then receive encouragement to try a couple of activities which could expand our ideas about what is edible, although the activity experiences probably will not change actual eating habits. To do that we would need to examine many other factors as they affect our values culture, and life style.

Lesson Objectives:

1. To demonstrate to participants that what we eat is determined by many factors.
2. To demonstrate that many other items are edible that we may not have considered edible.
3. To try out a food that is new to the participants and to record and discuss the reactions.

Mechanics:

Time: 1 class period

Materials: You will need to duplicate the student handout titled "Food for Thought" so that each student has one.

Activity:

1. Hand out the reading to the class. After they have read the article ask them to explain why they would or would not eat an insect. Do not judge the responses. Ask students to try to identify something they eat that other people might not want to eat or might see as strange. Have the students list other plants or animals that they don't eat that might be good to eat either in taste or nutritional value. Have students check out these foods to see if they are edible.

2. Have the participants do either or both activity 1 or 2 listed on the student handout. Share and discuss the results after students have completed the activities.

An editorial such as this one points out how strongly values influence our lives.

Some activities:

(1) Serve commonly available foods which have never been served in your home before. In some homes, tropical fruits such as papayas, mangoes, pomegranates, guavas, etc. may be new. Record your family's reactions.

(2) It is the year 2014. Write an ad for a snack product introducing a new, high protein food source for the first time -- insects. The ad will appear in a food-oriented consumer magazine like FAMILY CIRCLE. It is your task as the ad writer to make the new product appealing and highly marketable.

18:1

Title: Operation Bigger Beef (adapted by Jeanne Schermerhorn, Westminster Schools, from materials developed by Robert Richberg, Colo. State Univ.)

Introduction: In this activity participants decide which nation should receive a shipment of beef. In playing the roles of governmental decision makers participants gain knowledge about the conditions in other countries and experience the fact that there are more problems than solutions at the present time.

Lesson Objectives:

1. To introduce the students to some of the dimensions of world poverty and its means of recognition.
2. To increase the students' familiarity with the economic and social characteristics of different regions of the world.
3. To introduce the students to the problem-solving mode of inquiry and the formulation and use of explicit criteria in decision-making.

Strategy: Simulation of a resource allocation problem carried out by a government agency. Published information and mapping of distributions are used to solve the problem.

Mechanics:

Time: 3-5 days

Materials: Printed text, which includes notes to the teacher and the Departmental Memo. Working maps of the eastern and western hemispheres showing countries of the world. Forms listing countries and criteria and forms for final choice of countries. Statesman's Yearbook, United Nations Statistical Yearbook, atlases, and other sources such as almanacs would be useful.

Activity Procedures:

There are seven parts in this activity, which are described below. The setting is a research section in the U.S. Department of Agriculture. This research section is to recommend ten countries to receive the cattle feed additive which will produce bigger beef. Just how to select these countries is not specified--this is the responsibility of the research section. The process of selection might go as follows:

Explicit criteria are important in the process selection. The concept of criteria should be discussed and clarified in class. As an example, the first criteria chosen might be:

1). any country selected must have cattle
2). any country selected must be "poor"

These are reasonable criteria but to be put into action in the selection process, information must be found. Most atlases

will tell which countries have cattle but "poor" must be defined somehow, maybe in terms of per capita income. Also, in addition to just having cattle, maybe the countries should have a minimum of, say, a million head of cattle. Revised, the first two criteria would then read:

1). any country selected must have at least a million head of cattle, and
2). the per capita income must be below $500 per year.

As described below, a map can be made for each criterion where countries which satisfy the criterion are colored red and those which do not satisfy it are colored black.

So far, two criteria have been chosen and used. Any country which might be selected should meet both criteria (should be red on both maps). It is likely that many countries meet both criteria. To narrow down the field, further criteria should be developed and mapped. Criteria can proceed from the more obvious ones, as above, to less obvious and more discriminating ones. A list of possible ones, with information sources, is

Criterion	
1). Country must have cattle	Atlases
2). Country must have per capita income less than $500/year	Atlases, Almanacs, U.N. Statistical Yearbook
3). Country must have at least a million head of cattle	Atlases, Statesman's Yearbook, U.N. Statistical Yearbook
4). People must eat beef	
5). Average diet contains less than 2000 calories/day	U.N. Statistical Yearbook
6). Population must be greater than 5 million people	Atlases, Almanacs, Statesman's Yearbook
7). Should be non-communist	
8). Should be protein deficiency among population	U.N. Statistical Yearbook

This list is just an example of criteria which might be used. More criteria, or less, or other ones might be used. The point is, the criteria used must be relevant to the problem and must allow available information to be brought to bear. As the results of using each criterion are mapped, the new map should be compared with the previous maps. Remember, to be chosen, a country must meet all the criteria (be red on all the maps.)

The seven parts of the activity will now be described:

A). The class should be divided into five teams, with each team responsible for a region to investigate. The regions are:

Latin America
Europe and USSR
Southwest Asia and North Africa
The rest of Africa
South and East Asia and Oceania

The regions are marked off on the maps included for reproduction. Each team should have a Research Director to coordinate the work. Two countries may be chosen from each of the five regions but the teams can negotiate at the end if they have found some especially deserving choices.

B). Present the Memo in class.

C). Begin the discussion of criteria and ask each team to come up with two initial criteria.

D). The teams should then go and see if they can find any information which will make their criteria workable. Criteria may have to be revised to fit the available information.

E). When workable criteria are found, each team should make a map showing the results for its region. As suggested above, countries meeting a criterion can be colored red, those not meeting it should be black. If there is no information for a country it can be left white. Each criterion should have a map and the criterion should be written on the map.

F). A list of countries which meet all criteria should be be made. As new criteria are used to exclude countries, names can be struck from the list. New criteria should be developed until the list of candidate countries is very small.

G). Finally, each group settles on two countries from its own region. A class list should then be made, containing 10 countries. If the class is not satisfied with the list, they can negotiate on which countries to add and which to exclude; the final list should have only 10 countries, though.

Operation Bigger Beef
Memo

"Ladies and gentlemen...I am speaking to you on behalf of the President. What I have to tell you is highly confidential and should remain inside these walls. The President has just assigned me, in the Department of Agriculture, an urgent and important task. The code name for this assignment is OPERATION BIGGER BEEF. As you may have heard, our laboratories have developed a new technique for feeding beef cattle. This technique, through the use of a special ingredient added to cattle feed, can rapidly produce much heavier, meatier animals. This means that beef cattle throughout the world can be improved without drastic changes in their usual diet."

"The President has asked me to prepare a list of countries that could use our help in improving their beef cattle production. You as members of the Department of Agriculture research staff have been gathered here to tell me which countries I should recommend to the President for aid. However, two problems greatly complicate the selection. First of all, there is a shortage of the additive. It will not be available in large quantity until large scale production can be started in about two years. This means that only 10 countries with the greatest need can be helped this year. Moreover, there is a limited amount of the additive, even for them."

"The second problem is that we have very little time. The budget for this fiscal year is in its final stages of preparation. Therefore, the decision regarding recommended countries must be made as soon as possible. We hope you will reach your decision within a week."

18:5

STATE DEPARTMENT INTER-OFFICE MEMO

TO: Head, Area Research Division

FROM: Research Chief of the _____ research team

SUBJECT: Final Country Selections for OPERATION BIGGER BEEF

DATE: _____

It is our recommendation that the following named countries receive the new cattle food-additive under OPERATION BIGGER BEEF. The reasons for these choices are included.

Reasons:

No. 1 _____

No. 2 _____

No. 3 _____

Members of the Area Research Team

1.

2.

3.

4.

5.

6.

7.

Title: The Rice Game (by H. Thomas Collins)

Introduction: This short game, using a vial of rice grains, can be used to meet a number of different objectives. This potential diversity is the activity's main strength. In the activity students guess the number of rice grains in a vial, working in larger groups to reach group estimates. Following the determination of estimates, the group discusses what they did and why.

Objectives:

Knowledge
1. In social studies a "correct" answer is not always possible.
2. Decisions must be made on tbe best available information.
3. Social decisions are always based on some uncertainty and should be subject to revision.

Skills
1. Articulation of opinion
2. Willingness to compromise
3. Using a logical procedure to make an estimate.

Affective
1. Acceptance of others' opinions.
2. Group interaction.
3. Acceptance of uncertainty.

Mechanics:

Time: 1 class period

Materials: One clear small vial filled with uncooked grains of rice

Activity:

1. Pass around the rice vial, asking each person to estimate the number of rice grains, and record their estimate before passing the vial to another. While the vial is being passed around, have the group participate in a short activity or presentation of some kind, You might use the activity titled, "Of Imaginary Numbers" at this time.

2. Next, ask students to form pairs and reach a consensus as to the number of rice grains in the vial. Have each pair record their estimate.

3. Ask each pair to confer with one other pair and arrive at an estimate which is agreeable to all four individuals. Continue doubling the conferees until all participants have arrived at one figure.

4. Refer to the figure arrived at as the "correct" figure. Ask who originally had the lowest estimate? Who the highest guess? Who guessed closest to the figure ultimately arrived at? Discuss how groups compromised, and how they felt about compromising. Were they satisfied with their final guess? Discuss.

5. At this point, it is wise to remember that it is not important to know the exact number of grains. Many situations arise in which we don't know the exact number needed, and so we use estimates. Problems may occur when we confuse estimates for an exact answer. This problem could be discussed by the class briefly.

6. You might now discuss some of the better techniques for arriving at estimates. Emphasize that no single technique exists, but some are better than others.

7. Have the group make a list of situations where they would like to know an exact number of something. Have them make a list of situations in which an estimate would suffice. Discuss these preferences, and possible reasons for them.

8. Ask the group decide in what areas of life we can or should obtain exact answers, measurements, or numbe[illegible] Perhaps we need to increase our tolerance when dealing with numbers by gaining a greater understanding of the concept of estimating. Ask for students' reactions to this.

20:1

Title: Global Deadlines (by George Otero)

Introduction: People in the world today face many pressing problems. Our perceptions of the severity of these problems today will no doubt have tremendous effects on the world of tomorrow. In this exercise students decide which situations have the most immediate deadlines by rank ordering these situations. These ratings reflect perceptions about the causes/nature of these global problems, setting the stage for a discussion of students' perceptions of population changes as they are occurring in a global context.

Lesson objectives:

To have participants evaluate the severity of rapid population growth as compared to other global situations.

Mechanics:

Time: 1 class period

Materials: Make an overhead transparency of the handout titled "Global Deadlines."

Activity:

1. Place the overhead transparency on the screen. Tell the participants that you would like to discuss the group's perceptions of deadlines--deadlines related to global situations. Ask the group to individually rank order the six areas from 1 to 6 according to the immediacy for solving or dealing with the situation. In other words which situation listed has the most immediate deadline? That situation would be ranked #1. Ask this question of yourself until all six situations are ranked.

2. Tally the group's responses using a color (red) to signify the number of 1st place rankings a situation received. Use another color to signify 2nd place rankings. You need only do the first 3 places as that will provide more than enough data for discussion.

3. Discuss the ratings. Encourage participants to express their thinking about their choices. What explains the variety? How could these situations be ranked so differently? How could you explain the various responses? Would you expect all people to respond to the list in a similar way? Explain. Summarize as many of the group's perceptions about deadlines as possible.

4. How did the group rank rapid population growth? Ask the group if population size is related to the other situations? Why did the group rate rapid population growth as they did? Supply the group with some facts about rapid population growth, or do some other activities that provide factual information about population growth. Did this information change anybody's ratings? Discuss.

STUDENT HANDOUT

GLOBAL DEADLINES

Find out more about each of the following world-wide concerns and then list them in the order you think they must be dealt with. In other words, which of the concerns has the most immediate deadline?

CONCERNS:

The stripping away of the ozone layer of the atmosphere by the use of aerosol cans

The destruction of whales

The control of nuclear arms

The very rapid growth of world population

The lack of food to feed the people of the world

The poor conditions in which many of the people in the world must live

The pollution of streams and rivers

Title: Food Banks (by George Otero)

Introduction: Believe it or not many people in your town do not have enough food to eat. Often a person who doesn't have enough money to buy the things he wants can obtain a loan from the bank. But the bank doesn't give loans for food, and the grocery store doesn't sell food on credit. Since people living in towns can't borrow food and can't grow their own, they go hungry. Many people in your community feel this is wrong. They have started food banks. These are places where people can get food when they really need it. This activity explores the food banks and their function in your community, encouraging people to consider participation in such activities.

Lesson objectives:

1. Students will familiarize themselves with the organizations in the community that provide food to those who can't afford it.
2. Students will decide whether to aid these groups in their efforts.

Mechanics:

Time: varies--1 class period for discussion

Materials: Ditto or make a transparancy of the article titled "Food Banks"

Activity:

1. Hand out the reading "Food Banks." After reading the article have participants comment. Why is such an article necessary? What is a food bank? Why is it called a bank? To what problems in our society does the article address itself?
2. After initial discussion in which people's reactions are expressed and the group has some sense of the nature of food banks and the problems in our society addressed by these food banks, consider these questions:
   a. Have you ever given to a food bank?
   b. What other ways can a society deal with the problems food banks attempt to deal with?
   c. In your opinion are food banks a good idea?
3. At this point the group might be interested in learning more about food banks in the community. You might make arrangements for a speaker to come talk to the group, or a committee might be formed to collect and present more information to the group. The group might even decide to make contributions to a food bank or start their own food bank, limited as it might be.

FOOD BANKS*

Mrs. Marie Severe got 10 of her friends to get 10 of their friends to give $10.00 monthly to help buy food for the needy. Mrs. Severe, who heads the Coalition of Food Banks, now buys at least $1000.00 worth of food monthly at cost from a local market.

The Coalition now supplies food to some 15 organizations who distribute it to the needy. Among the organizations supplied are:

Annunciation Parish in Denver
Central Denver Community Service in Capitol Hill
FISH if Commerce City
Our Lady of Guadalupe in Denver
Southwestside Ministry in Denver
Epworth Parish in 5 Points
Park Hill Community Service in Park Hill
St. Patricks in Denver
Holy Spirit Community Center in Denver
St. Josephs Church in Denver
St. Francis DeSales in Denver
Immaculate Conception Cathedral in downtown Denver
St. Pius in Aurora
Inter Church Task Force in Aurora
Our Lady Mother of the Church in Commerce City

YOU CAN HELP!

You can help the Coalition this holiday season by bringing non-perishable foods to any Colorado Federal Savings office from now through December 19th.

From Southeast Neighbor published by Colorado Federal Savings

Title: Triage: A Simulation (by Don Boeckman, Westminster Public Schools)

Introduction: Many people involved in the study of population and food issues think there is not enough of anything to go around, examining population and food questions from a scarcity perspective. These people have revived a concept called Triage. Triage is a French word used to identify and help injured soldiers during war time. Because of limited medical resources, injured persons were often divided into 3 groups, one group receiving attention immediately. The group getting attention first was not the least or the most seriously injured, but rather the injured group which would benefit most from immediate medical attention. Such a decision was difficult but necessary to make under the circumstances. Many social scientists think this same approach should be used in questions related to food aid.

In this activity, participants actually participate in a medical simulation involving Triage. After the simulation, participants consider the concepts and their application to population and food situations. It should be mentioned that this is only one perspective of food aid, but it is one with which participants should be familiar.

Objectives:

Given a simulated activity about victims of a plane crash and limited medical attention available to them, students will categorize the victims according to the principal of "triage."

Activity:

1. Pre-select two students who will act as paramedics and instruct them in their roles. They are to examine each victim's injury card and to tag them with a colored card. Group I (attach a red card to all victims you decide are in this group) consists of those victims whose injuries are so severe they will die even if they are brought down to the hospital quickly. Group II (attach a blue card to all victims you decide are in this group) consists of those victims who have a chance for survival if they can be airlifted to a hospital quickly. Group III (attach a green tag to all victims you decide are in this group) consists of those victims who are likely to survive even if medical attention is delayed.
2. Set the scene with the rest of the class. A plane with 25 occupants enroute from Denver to Aspen for a skiing vacation has crashed high in the mountains. A large military helicopter with two paramedics has been dispatched to the scene. The medics are instructed to examine the victims and decide which ones are to be taken out on the first trip, the second trip, and the third trip. The maximum safe capacity of the aircraft is 10 persons. A round trip to a hospital takes two hours. No other helicopter capable of reaching this altitude is available.
3. Randomly pass out the victims' injury cards and have them attached to their arm or clothing. Students may act out the injuries by lying on the floor or assuming a suitable position.
4. "Paramedics" "examine" the "victims" injury cards, and attach the color coded group card.
5. "Paramedics" then explain to the victims what the cards mean and which ones will be taken out first, second, and third.
6. Debrief by teacher - possible probe questions:
   A. Do you think you were placed in the right group?
   B. How do you with the red tags feel?
   C. How does the rest of the class feel about the ones with the red tags?
   D. Given the limitations of the story, is there a better way to handle the rescue effort?
   E. Is there any other situation in which this kind of victims grouping (Triage) might have to be used?

F. In what respects is Triage as practiced in medical situations similar to food aid situations? Different?
G. Do you think Triage is a good principle to use in considering food aid? Financial aid?

1

Conscious and rational

Strong Pulse

Able to walk

Bruises on head

Left arm broken, bone exposed

2

Conscious and rational

Strong pulse

Able to walk

Bleeding lightly from face and scalp cuts

Second degree burns on right forearm

3

Conscious and dazed

Strong Pulse

Able to walk

Glass cuts on face and right shoulder

Right eye lacerated

4

Conscious and dazed

Weak rapid pulse

Staggering walk

Bruises on head and upper body

5

Conscious but hysterical

Weak, rapid pulse

Bruises on face and head

Left leg broken above and below knee

6

Conscious but hysterical

Weak rapid pulse

Light bleeding from nose and mouth

Several teeth missing, jaw hanging down

Lacerations on face and right shoulder

7

Unconscious

Strong, regular pulse

Bruises on face and head

Second degree burns left shoulder and arm

8

Conscious and dazed

Weak rapid pulse

Face lacerations - bleeding from nose

Second degree burns to lower left leg

9

Unconscious

Strong regular pulse

Dislocated left arm

Second degree burn on forehead and scalp

Left leg broken below knee

10

Unconscious

Weak, rapid pulse

No apparent bruises or lacerations

No broken bones

11

Conscious and Rational

Strong, rapid pulse

Face lacerations

Deep bruises on back - no feeling below waist

Third degree burns on hands

12

Unconscious

Weak, rapid pulse

Heavy bleeding inside right thigh

First degree burns on back

13

Conscious but hysterical

Weak, rapid pulse

Moderate bleeding from lower abdomenal puncture wound

First degree burns on chest and left arm

Third degree burns on face

14

Conscious but dazed

Weak, rapid pulse

First degree burn on hands

First degree burns on left leg below knee

Second degree burns on right leg from hip to ankle

Heavy bleeding inside left calf

15

Concious but hysterical

Weak, rapid pulse

First degree burns on abdomen, chest, face, and arms

Broken upper right arm with bone exposed and bleeding heavily

16

Concious anf rational

Weak, rapid pulse

Severe bruises on left arm and shoulder

Left forearm crushed with moderate bleeding

Crushing injuries to left hip with multiple fractures of pelvis and leg.

Moderate bleeding from lacerations on left thigh.

17

Conscious but dazed

Weak, rapid pulse

Severe bruise on neck and throat

Labored, rasping breathing

Lacerations on face and left shoulder

18

Unconscious

Faint, rapid pulse

Second and third degree burns over upper body above the waist

Multiple fractures of left hip and pelvis

19

Conscious and rational

Strong, regular pulse

Able to walk

No apparent injuries

20

Conscious and rational

Weak, rapid pulse

First and second degree burns on forearms and hands

Slight lacerations and bruises on face and scalp

21

Unconscious

Faint, rapid pulse

Severly mangled legs

Swelling of the abdomen

22

Unconscious

Faint, rapid pulse

Puncture wound in right chest

Gasping respiration

Multiple fractures of right arm

23

Unconscious

Weak, irregular pulse

Labored, difficult breathing

Slight bruises on face and chest

First and second degree burns on hands and forearms

24

Conscious but hysterical

Faint, rapid pulse

Labored difficult breathing

Puncture wound in upper abdomen - heavy bleeding

Conscious and rational

Weak, rapid pulse

Slight bruises and lacerations on face and scalp

23:1

Title: Personal Food Survey (by Gary Smith and George Otero)

Introduction: This simple survey is designed to increase participant awareness of the many variables involved in our eating habits and patterns. After answering a few questions concerning personal eating routines, participants analyze their responses using questions that probe the motivations and determinates behind eating patterns.

Lesson Objectives:

To increase knowledge about the possible motives and determinants behind their own eating habits and patterns.

Mechanics:

Time: 1 class period

Materials: Duplicate copies of the Personal Food Survey for each participant in the group.

Activity:

1. Tell the group that you are handing out a short survey on personal eating habits which will be used as the basis for a discussion of eating patterns in this country. Have each individual answer the survey. This can be done anonymously if people would answer more honestly thereby.
2. After students have completed the survey, discuss the questions at the end of the survey with the group.
3. Have the participants consider one change in our society that would have an important and/or dramatic effect on their eating patterns. Would they be pleased with the change? If so, how could the change come about?

PERSONAL FOOD SURVEY

1. What are three of your favorite foods? _____

   _____

2. How many meals a week do you eat outside of your home?

   1 2 3 4 5 6 7 8 9 10 or more

3. Listed below are reasons people give for eating. Place an X next to any reason you feel you have never had to use to eat. Place an O next to the three most frequent reasons you use to explain eating habits. Place a check next to the two reasons you think should be used to justify our eating habits.

   -----survival
   -----enjoyment
   -----oral gratification
   -----habit
   -----social company
   -----business
   -----comfort
   -----other

4. How often did you eat yesterday? (Count any time you ate something.)

   -----not at all
   -----once
   -----twice
   -----three times
   -----four times
   -----five times
   -----six times
   -----seven times or more

5. Have you ever been on a diet for a week or more? Yes _____ No _____

6. Which age group applies to you?

____ 1-10	____ 19-25	____ 51-60
____ 11-13	____ 26-36	____ 61-70
____ 14-18	____ 37-50	____ 71-90
		____ 90-

Questions:

1. Which of the above reasons for eating could be eliminated or reduced? Which should be eliminated or reduced?
2. Could you cut down on the number of times you eat each day? Do you think you should cut down?
3. How would you explain the choice of your three favorite foods?
4. How did different age groups compare in their eating habits? (You could compile survey results to facilitate discussion of this question.)

Title: Connect the Dots (by George Otero)

Introduction: Most of us often would like to believe that food production is a simple process. Farmers plant the seeds, fertilize the seeds, care for the plants, cut the crop, and sell it to distributors who then package and distribute the food through the local supermarket. So, faced with the question of increasing food production, we say plant more seeds, use more fertilizer, or offer other solutions that reflect our knowledge of the food production system. But the food production system is more complex and interdependent than most of us care to imagine or to investigate. In this activity participants learn more about the complex interactions between the many factors affecting food production.

Lesson Objectives:

1. To familiarize participants with the many factors that interact, resulting in the food produced for consumption.
2. To encourage participants to identify the interactions and relationships among the factors determining food production.
3. To demonstrate visually the complex interdependence of food production factors.

Mechanics:

Time: 1 class period

Materials: Duplicate copies of the handout titled "Connect the Dots" for each pair of participants.

Activity:

1. Ask the group to list all the factors that determine how much food will be produced in any one year.
2. Then divide the group into pairs and hand each pair the handout. Ask the participants to connect any two factors that are related to each other (that act on each other) by drawing a line from the dot of one factor to the dot of the other factor. You might wish to increase the complexity by adding directional arrows to the lines showing the direction of the relationship between the two factors.
3. You might have the participants compare charts. Did most people agree on the connections? You might draw the connections agreeable to all on an overhead transparency. Now take any factor. Describe a change in that factor. How would this change affect other factors? How could it affect food production?
4. Have participants compare their worksheet to the list they compiled at the beginning. What conclusions can they draw about what they knew about food production before and after the session?

Further Suggestions:

If you would like to make a more graphic visual demonstration of the interdependence of food producing factors, try this approach

to the activity:

1. Assign a factor to each individual by writing the factor on a large card and letting people choose factors. Pin the card to the person so that everyone can tell what factor that person represents.
2. Then have the participants stand in a circle. Begin with <u>one</u> factor asking the group if that factor is related to any other factor. As people mention relationships that the group agrees exist, connect the two factors with string. At the end of the session you will have a tight web of string connecting the factors. You can demonstrate the interdependence by having one factor drop his grip on the string, showing how the loss of that factor loosens the tight bond.

CONNECT THE DOTS

According to many scientists, this is only half the factors. Can you add others?

Title: Food Maze (by George Otero)

Introduction: Games are often good methods to familiarize people with new information or to review important concepts or knowledge. In this activity participants fill in a word search consisting of 45 vegetables, fruits, and grains. Participants then learn more about those that are unfamiliar.

Lesson Objective:

Using a game, participants will locate 45 different fruits, vegetables and grains and will learn more about any item unfamiliar to them.

Mechanics:

Time: 1 class period

Materials: You will need to duplicate copies of the food maze for each participant.

Activity:

1. Hand out the food maze. If you like, you can promote competition by having pairs compete against the clock. Make up your own rules. Otherwise just encourage the participants to find as many of the items as possible. Such an activity is useful when it is difficult to get a group presentation to work or when individual participants want or need something to do.

2. You can stop with step 1 but we suggest these follow-up activities:

a. Have participants list the foods they have never tried. Have them try one of these new foods. Have the participants look up the facts about a food they had never heard of until doing the puzzle.

b. Have participants rank order the items according to nutrition, familiarity, group use, color, etc.

c. Have participants create their own puzzles that will help review or introduce new food items into the vocabularies of participants.

d. The participants could make meals using just the items in the maze.

Title: Who Shall Be Fed?* (by Paul M. Armstrong, adapted by Don Boeckman)

Introduction: The first part of the lesson is based on a fictional letter from a Peace Corps volunteer in Java to her younger brother in the United States. It serves to focus students' attention on the pressures of population in a country with limited resources, and on the degree of poverty which exists outside the U.S. By answering the same questions posed to Kim, the Javanese boy in the letter, students will notice the sharp contrast between their lives and that of the Javanese. In the second part of the lesson students will read short paragraphs outlining three possible approaches to treating the world food shortages. They will be asked to decide which of the three alternatives is most consistent with their ethical and emotional responses to Kim and the prospects of world survival.

Lesson Objectives:

1. Given a reading and discussion about food shortage and population growth in Java and given three suggested global policies in dealing with distribution of food resources, students will write a paper about how international food shortages may be treated. Students will clearly state which of the three alternatives they prefer and give a rationale why they chose that one and rejected the other two.
2. The participant will become familiar with three concepts: "Triage," "Lifeboat," and "food bank."
3. The participant will develop individual articulation in the writing of a considered value position.
4. The participant will increase his empathy and awareness of global food problems.

Mechanics:

Time: 1 class period

Materials: Duplicate the Food Policy Choice Card and the "Letter from Peace Corps Volunteer" Cards so that each student can have one of each.

Activity:

1. Pass out "Letter from Peace Corps Volunteer."
2. Point out Indonesia and Java on the map so students can visualize their locations.
3. Introduce the letter to the class by saying it is a letter to her younger brother from a Peace Corps volunteer working in Java, part of Indonesia. Tell students as they read the letter to pay close attention to the description of living conditions in Java.
4. Ask students to describe Java's physical characteristics.
5. Have students describe Kim's family and their life.
6. Ask students why Kim's family has such a difficult time obtaining enough food. You might then discuss the significance of

population density. Does high density necessarity mean that a nation will have many poor, underfed people? Can students name other nations that have high population densities? Students may cite high density countries such as Japan and the Netherlands, which don't suffer serious food shortages. What distinguishing factors do students see between these two countries and Java? (Most important is the high level of industrial development of both Japan and the Netherlands which enables them to pay for imports of food and large quantities of fertilizer. Since Java has few alternative sources for acquiring money, the pressures from growing population serve to perpetuate and worsen the poverty.)

7. Ask students to consider Karen's statement that while Kim's father can afford little fertilizer to prepare his land for cultivation, people in this country use it to beautify their lawns. Do students see any causal links between the high level of fertilizer usage in America and the low level in Java? What connections might there be? (High demand and high ability to pay for fertilizer in the United States -- and other industrialized nations --make fertilizer sufficiently expensive so that poorer nations can afford to buy it in only small quantities. Sharp increases in the price of crude oil since the October 1973 Mideast war have also increased the cost of fertilizer because oil is an important element in its manufacture. Thus, poorer countries have been further forced to curtail fertilizer purchases.)

8. Now tell students they are going to consider some alternatives to how international food shortages might be treated. Pass out the Choice Sheets, asking students to read them carefully and decide which alternatives best meet the needs of the world.

9. Make written assignment asking students to state which of the three alternatives they prefer and give a clear reason why they rejected the other two choices.

10. This may be turned in at the end of the period or the following day.

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*Adapted from a lesson designed by Paul M. Armstrong appearing in Intercom #77 by Robert Hanvey. Reprinted by permission from The Center for War/Peace Studies, New York, New York.

WHO SHALL BE FED? - CHOICE SHEET

A. Triage—The French developed the Triage system for handling battle casualties. As each wounded soldier came to the hospital, doctors examined him quickly and then assigned him to one of three groups: those who could not be saved no matter what was done for them; those who could not survive without aid but would survive with aid; and those who would survive if nothing were done for them.

Using this system, the nations that have extra food would make a decision to divide the other nations of the world into three groups:

Group 1 Nations that need a great deal of food aid over a long period of time but could not be saved because their problem is too great. These nations would be given no aid.

Group 2 Nations that need food aid over a long period of time and probably will survive if helped. These nations are given the aid they need.

Group 3 Nations that need aid but have a good chance of survival if none were given. These might get help, but only after Group 2 has been aided.

- *The "triage" approach* divides needy countries into groups according to the ability of food aid to help in their situation. Under this system some people are completely left out and receive no food aid although they need it. Its perceived benefit is that crucial food surpluses would not be wasted on nations with no chance of survival.

B. Lifeboat—Imagine a lifeboat filled with survivors. Around the lifeboat are others swimming in the water and desperate to get aboard. If they are allowed in, the lifeboat will swamp and all will lose their lives. The rich nations of the world are in the lifeboat. The poor are swimming in the water, begging to be allowed in the boat.

The rich nations cannot feed the hungry people of the world. If they try to feed everyone, the world food supply will be spread too thin and everyone will suffer. When the first crisis arises, because of bad weather or another reason, the available global food supply will not be adequate to feed everyone.

Because the populations of the poorer nations are growing at a faster pace than the rich nations, there is a larger and larger demand for the limited food available. Giving food aid may simply encourage the population explosion of the poor nations.

- *The "lifeboat" approach** has the apparent disadvantage of denying food aid to the needy in an attempt to save the rich nations. Its apparent advantages are that it does not endanger the rich nations in times of crisis and does not attempt the hopeless task of feeding everyone.

C. World Food Bank—Another proposal would be to put all the extra food in the world into a World Food Bank and let each nation that needs food at any time take food out of the bank to feed its people.

- *The "world food bank" approach* has the perceived disadvantage of rapidly depleting the world food surpluses and possibly encouraging the poor nations to continue rapid population growth. Its perceived advantage is that everyone would have equal access to the world's surplus food regardless of national boundaries.

LETTER FROM A PEACE CORPS VOLUNTEER

Sawahrejo, Indonesia

Dear Bob,

Since I haven't written to you in so long I thought you might want to share this letter with your classmates. They might also like to know what life is like in the Peace Corps.

As you know, I am working on the island of Java, part of the country of Indonesia. Java is very mountainous, with many volcanoes, and rich valleys where crops grow easily. As I look out from the window of my house, as the sun goes down over the mountains, I can agree with the Javanese people that this is truly a beautiful place.

Unfortunately, Java is a place not only of beauty. In the village of Sawahrejo where I live, there are 2,000 people who live closely packed together in very small houses. And the population here is growing very rapidly. Most of the villagers own very little land or no land at all. Even though the land is fertile, there are too many people trying to work a tiny plot and there is not enough food for everyone. To give you an idea of how dense the population is here, if the United States were as densely populated as Java is, it would have more population than the entire world now does. Not only are the people crowded together on the land, but there are very few jobs available for people who need to work to buy food for their families.

Recently, I met a boy about 11 or 12 years old named Kim. He lives with his mother and father, three sisters, and one brother. He had two other brothers, but they died of starvation when they were young. I asked him some questions about his life here.

Me: "What does your family eat?"

Kim: "We eat rice mostly but sometimes fruit or cassava." (Cassava is a filling, but not very nutritional root.)

Me: "How many times a day do you eat?"

Kim: "Sometimes twice but usually only once, in the evening. It depends on how much food we have."

Me: "What do you like to eat?"

Kim: "I like fruits like belimbing, jambu, and nagka." (These are fruits not found in the United States.)

Me: "Where do you get your food?"

Kim: "We own about 900 square meters (one-fifth of an acre) where we grow most of the food to feed our family. My father buys a little food, but he is able to find work only about one-third of the year, so we don't have much extra money."

Me: Does your mother prepare all the food you eat?"

Kim: "Yes, my mother cooks rice and fruit, if there is any." (Of course, Kim's family does not have a refrigerator.)

Me: "How much do you weigh?"

Kim: "Thirty-five kilos." (I later discovered he weighs thirty-one kilograms—less than seventy pounds.)

Kim and his family have the same problem as most of the other people here. I found out that Kim's family can grow five hundred pounds of rice on their small piece of land in a good year. His father is able to buy seeds and only about nine pounds of fertilizer with the little money he has available. Most people in the United States put far more fertilizer than that on their lawns each year.

I must end this letter so it can be sent out today, but I thought your class might like to try answering the questions I asked Kim and then comparing your answers with his answers. I would be interested in the results.

Love,
Karen

Title: The Pill (by George Otero)

Introduction: All of us spend time in food-related activities, even if we are only involved by sitting down to eat the food while others gather, package, sell, prepare, and dispose of the food. What would happen if all of these processes associated with food were eliminated? What would be the effect on us physiologically, socially, politically, economically, and psychologically? In this activity participants use their knowledge and imagination to hypothesize about the consequences to humans and their behavior if everyone obtained their food through consumption of a small pill taken three times a day. By exploring such a hypothetical case, participants can recognize the vast influence eating, food gathering, production, and preparation have on our physical and social well-being.

Lesson Objectives:

-----to provide participants the opportunity to consider and document the implications of a basic change in eating habits.

-----to enlarge the participants' understanding of the effects of food-related activities on our social and physical existence by documenting these relationships.

Mechanics:

Time: 1 class period

Materials: Duplicate and distribute copies of the handout entitled, "The Pill."

Activity:

1. Distribute the reading to participants. Ask them to read the handout. Tell the group to form pairs and write down all the implications of such a basic change in eating habits that can be determined. Mention that there are hundreds of potential effects. Give the group 15 or 20 minutes to compile a list. If they require help, you might list some of the categories that could be considered. These include: social interaction, laws, jobs, physical effects and appearance, etc.

2. After the lists are completed, have participants share their data with each other. Ask these questions:

a. Which effects are most likely to occur?
b. Which effects are least likely to occur?
c. Which outcomes would you like to see?
d. Which outcomes would you not like to see occur?
e. Would we as a people be better off if this situation did happen?

3. Have participants give examples of the ways eating habits control or influence out lives. After having looked at the hypothetical in this activity, the group should be able to document many relationships and connections.

Further Suggestions:

Have the group write short stories focusing on the data in their lists as related to the hypothetical situation of the activity. These stories could then be read to the class.

Participants might draw what people, towns, or homes would look like if a pill became our basic food source.

27 2

The Pill

1980

UPI The government has just announced a new discovery that will affect everyone on earth. The report states that in the next week every person will be given a supply of blue life pills. These pills contain all the nutrients and calories needed for a healthy existence. All other sources of food will be discontinued. Everyone in the world will have to take the pill three times a day. The government also mentioned the fact that enough of these pills can be produced in 5 factories to supply the entire world. It looks as though we can now see an end to world hunger.

28:1

Title: Food Yield (by Gary Johnson, Aurora Public Schools)

Introduction: A pertinent limiting factor to any growth is available space. As the human population has increased, the necessary space for its maintenance in all aspects also has increased. The surge in population has correspondingly increased the need for food production and cultivable land space. Conflicts arise, however, in the growing need for agricultural space and the growing need for living space. Increased food yield on existing farm land, though, can temporily alleviate the dilemma of expanding land needs.

This exercise helps the student understand the amount of space, or land area, that food production consumes as well as the time, energy, and natural resources needed for its production. Comparisons help the student identify and visualize the immensity of the problem.

Lesson Objectives:

1. To recognize the vast amounts of time, individual energy, and natural resources required for food production.
2. To increase personal identification with the conflict which overpopulation and food availability has brought.
3. To observe the differences in food yield brought about by variations in amounts of fertilizer and water used for growth.

Mechanics:

Time: 4 - 6 weeks, depending upon such factors as light source, seed type, and room temperature.

Materials: Root vegetable seeds (carrots, turnips, radishes, etc.), fertilizer, light source (window space or growing lights), growing boxes 8 to 12 inches deep with good drainage.

Activity:

1. Divide the class into groups, assigning each group a particular variable to be measured. (It is recommended the groups not contain more than five members, if space allows, in order to offer some sort of personalization with the development of the crop.) Variables to be measured should at a minimum include the amount of of water and fertilizer used for growth. A third factor, light-subject time, can be used if practical (depending largely upon whether artifical or natural sunlight is used.)Typical variable groups might be as follows: group #1, watered once a week and fertilized; group #2, watered twice a week and fertilized; group #3, watered three times a week and fertilized; group #4, watered once a week and not fertilized; group #5, watered twice a week and not fertilized; group #6, watered three times a week and not fertilized.

Root vegetable crops are used since there is some difficulty in producing mature yields from top-bearing vegetables and grains when crops are grown inside the classroom. Growing boxes 8 to 12 inches deep with drainage holes in the bottom should be used. It is preferred that one-foot square boxes, or some other mathmatically convient area, be used to simplify computation. Seeds should be planted the recommended distances apart (usually found on the package of seeds), and seeds which fail to sprout should not be replanted (this loss also occurs on farm lands).

2. Each group should keep weekly data charts indicating the amounts of water, fertilizer and time spent by the members while caring for their crop.

3. After four to six weeks reap your crops. Determine (a). the nutritional value of your particular crop and the approximate weight of the food needed to supply minimal requirements for one student for one day, ect., (b). how many people could be fed for one day with your class food yield, and (c). how long the class could survive on this crop which took 4 to 6 weeks to mature. Compare the space needed for the crop's growth with the space needed to feed the class for one week, month, and year. Compare how fertilizer and water in varying amounts affected your crop.

Title: Comparing Quality and Quantity (by George Otero)

Introduction: Is a 1 pound steak better for you than a 4 oz. fish fillet? Does 1 cup of butter have more calories than 1 cup of ice cream? We often think that quantity equals quality. The more you eat the better off you will be. That is not true. In this activity participants visually demonstrate to each other the fact that how much one eats is not as important as what one eats.

Lesson Objectives:

To use visual demonstration to point out to participants that size or amount of food is not directly proportional to quality caloric or protein content.

Mechanics:

Time: 1 class period

Materials: You will need a calorie chart. You will need butter and spinach. Participants will supply other materials.

Activity:

1. Figure out how many calories are in a cube of butter. Then get the equivalent amount of spinach. Bring this to class. Hold the two items in front of the group. Ask them which would give them more calories. Ask them which is better for them. Get them to decide that it depends on what you want the food to do for you. To make the point you may want to use two items that people will think are good for them so that they tend to say the larger quantity is best for them before they have considered the actual quality of the food.

2. Have participants bring in other comparisons of foods to show how quality compares to quantity. Encourage participants to pick items to compare that people usually identify as something that is good to get in quantities. If people do not wish to bring in items, charts or drawings could be made to demonstrate the point that quality and not quantity is what one should look for in bringing and eating food.

3. Have participants plan menus. They should plan a day's meals that will give them the quality of food they need while cutting the quantity in half if possible. Consider this question with the group: Would there be more food to go around if we focused on food quality and not quantity?

Further Suggestion: Find evidence in your community where food is advertized as a way of emphasing quantity and not quality. Size of portions, feasting, excess, and other clues could be identified. Then discuss these questions: Is our economy geared to selling quantity or quality of food? Which makes the most money for the farmer, the store, the businessman?

30:1

Title: Why Are People Hungry? (by George Otero)

Introduction: This is an introductory activity. There are many possible answers to why people are hungry, and people have different perceptions of the answers. These perceptions can be affected by the location of the hungry, the color of their skin, and the current political climate. It is important that the participants discover, document, and analyze their own perceptions and ideas related to the question, "Why are people hungry?" In this activity participants brainstorm, ranking hypotheses that seek to answer the question. These hypotheses can then be tested by examining data related to the question and by using other activities in this booklet or in other teaching units or texts.

Lesson Objectives:

1. To reflect participants' perceptions on the causes of hunger by having them brainstorm a list of hypotheses to answer the question, "Why are people hungry?"
2. To rank order the hypotheses using different criteria.
3. To present the question to the participants as an important question for their consideration.

Mechanics:

Time: 1 class period

Materials: Participants will need pencil and paper.

Activity:

1. Tell the group to break into pairs. Tell them you would like to see which pair can come up with the largest list of possible guesses to answer this question: "Why are people hungry?"
2. Compile the lists if time permits. Have the groups now rank order their lists in the following manner:
   a. Place an X next to the two guesses that they think explain why most people are hungry.
   b. Place an O next to the reason given that applies best to people living in poor countries.
   c. Place a check (✓) next to explanations that an individual can do something about.
   d. Place a + (plus) next to explanations indicating that it is the hungry person's fault for being hungry. Discuss the ratings.
3. Mention to the group that these guesses are just guesses, and they need to be tested. How could we test these ideas? Which one should we take first? Should we focus on America or the whole world? You might collect the lists for evaluation after a study of hunger and food has been completed.

31:1

Title: Who's Fixing Dinner Tonight? (by George Otero)

Introduction: Consider how much time every day is spent by people either growing, preparing, serving, buying, or disposing of food. And in some societies, especially preindustrial, the time for such tasks probably is doubled or tripled from the time taken in contemporary life. Who is responsible for food-related tasks in your home? Who is responsible in your community? Who is responsible in your state or nation? In this activity participants gather data on questions related to food production, gathering, distribution, and consumption. They use that data to generate hypotheses about the role food plays in our lives in relation to the time these activities take.

Lesson Objectives:

1. Participants will identify the persons and the time involved in gathering, growing, preparing, serving, and disposing of food.
2. Participants will evaluate the use of time for food-related activities in terms of efficiency, roles, waste, and cost.

Mechanics:

Time: 1 class period

Materials: Duplicate copies of the handout titled "Food Time."

Activity:

1. Hand out the chart to the participants. Tell them to collect data on the chart for a few days. Have the participants bring the completed chart to a joint class session.
2. Discuss the data from the charts with the group. Who is most often responsible for buying the food? How long does this take? Could the time be shortened? Who is most often responsible for storing the food? How much time does this take? Who is responsible for preparing the food? On the average (this can be computed) how much time is spent each day preparing food? How is food disposed of? Who takes charge? What is the total time, on the average, spent by members of your families in food-related activities?
3. Now have the group try to examine different patterns of food-related behavior. How do single persons get their food? Do they spend as much time in food-related activities as you do? As your family does? What about other cultures? Take another culture and collect data on food-related activities. Do they spend more time than you do? Than your family does? Do they spend more or less time in gathering, producing, preparing, storing, or disposing of food? What could account for these similarities and differences?

Further Suggestions: Plan to change the time it takes to prepare, obtain or store food? Then evaluate the change. Plan to change the persons involved in food-related activities. Do you like the results? Where do you stand on this statement: "I spend more time in food-related activities than it is worth?"

DAY	GATHER FOOD	STORE FOOD	PREPARE FOOD	SERVE FOOD	EATING FOOD
		FOOD	TIME		
DAY 1	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:
DAY 2	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:
DAY 3	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:
DAY 4	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:

DAY	TRAVEL RELATED TO FOOD ACTIVITIES	DISPOSING OF FOOD WASTE	MISCELLANEOUS	OTHER	OTHER
DAY 1	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:
DAY 2	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:
DAY 3	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:
DAY 4	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:	WHO: TIME SPENT:

DEFICIENCY DISEASE	TYPE OF DEFICIENCY	MAJORITY OF VICTIMS	CAUSE	SYMPTOMS	RESULTS IF UNTREATED	TREATMENT
AVITAMINOSIS A	Vitamin/Mineral	Asia, Latin America, and indonesian ports. Children six months to 3-4 years.	Lack of Vitamin A.		Blindness.	Large amounts of vitamin A found preformed in animal products and carotenes in vegetables.
NUTRITIONAL ANEMIA	Vitamin/Mineral	Expectant mothers and young children.	Shortage of iron in the bloodstream		Death	Addition of meat, liver, and other foods containing iron into the diet.
RICKETS	Vitamin/Mineral	Children	Vitamin D deficiency, preventing proper absorption of calcium and phosphorous.		Deformities of the skull, legs, spine, & pelvis.	Diet rich in vitamin D, found in large amounts in fatty fish, liver, butter, & sunlight.
OSTEOMALACIA	Vitamin/Mineral	Adults, usually pregnant or lactating women	Vitamin D deficiency, preventing proper absorption of calcium and phosphorous		Deformities of the skull, legs, spine, & pelvis.	Diet rich in vitamin D, found in large amounts in fatty fish, liver, butter, & sunlight.
GOITRE	Vitamin/Mineral		Iodine deficiency in the diet.		Fetal development & normal growth retarded. Enlargement of thyroid gland.	Addition of iodine into the diet.

DEFICIENCY DISEASE	TYPE OF DEFICIENCY	MAJORITY OF VICTIMS	CAUSE	SYMPTOMS	RESULTS IF UNTREATED	TREATMENT
KWASHIORKOR	Protein/Calorie	Southeast Asia & Africa. Children put on starchy adult diets right after weaning.	Lack of protein	General apathy, edemic stomachs, wasted muscles, discoloration & swelling of the skin (& sometimes peeling), diarrhea.	Retarded growth; greatly reduced resistance to other diseases, death	Special high-protein fluid feedings, containing skim milk protein & vegetable protein
MARASMUS	Protein/Calorie	Southeast Asia & Africa. Children put on starchy adult diets right after weaning.	Starvation	General apathy, edemic stomachs, wasted msucles, vomiting, and diarrhea.	Death from loss of body fluids.	Special high-protein fluid feedings, containing skim milk protein & vegetable protein.
BERI-BERI	Vitamin/Mineral	Asian countries where polished rice is a staple of the daily diet	Lack of vitamin B, particularly the thiamine type.	Wasted limbs, paralysis of the limbs.	Heart failure, signs of nervous disorder.	Diet with high thiamine content.
PELLAGRA	Vitamin/Mineral	Common among those whose diet is made up mostly of maize	lack of vitamin B, particularly the niacin type.		Diarrhea, dementia, and dermatitis.	Well-balanced diet with plenty of meat and green vegetables.

Title: Food Waste (by George Otero)

Introduction: Some middle-income families waste nearly 25 per cent of the food they purchase according to data collected in sample studies in Tucson, Arizona, and Springfield, Oregon. If the towns are typical of American eating patterns, food waste could be viewed as a serious problem in the United States. This activity is centered on the question, Why do we waste food? The short article is used to raise the issue of food waste with the participants. The participants then document examples of food waste, suggest (and hopefully try) remedies, and consider the values reflected in a society that wastes so much food.

Lesson Objectives:

1. To examine and evaluate eating habits as they relate to food waste.
2. To document food wasting practices and to list remedies to such practices.

Mechanics:

Time: 2 class periods

Materials: Duplicate copies of the article "Studies Reveal Food Waste." Duplicate copies of the handout titled, "Documenting Food Waste."

Activity:

1. Ask the group who wastes more food in America: the rich, the middle class, or the poor? Then hand the article to the group to read.

2. Discuss the article. Does the article indicate that as Americans we waste more food than previously considered? Is it all right to waste food? Are you in the middle class referred to in the article?

3. Hand out the chart on documenting food waste. Ask the participants to record examples of food waste over the next few days.

4. Have participants share their lists with the group. Then break the group into smaller groups of 3 or 4 people. Have these people propose solutions or remedies to these problems. Have the group classify these remedies as a remedy that is personal, small-group, financial, or legislative. Then encourage participants to pick one area of waste to act on within the next week or two. In two weeks hold another class session to document and share the results of any action the group members may have taken.

FOOD WASTE

Examples of Food Waste

Remedies for Food Waste

Studies Reveal Food Waste

WASHINGTON -(UPI)- Middle-income Americans waste more food than their richer and poorer counterparts, and school children daily toss away large amounts of food and milk, according to studies published Saturday.

The National Observer said in a story for its Sunday editions that millions of dollars worth of food are wasted in the United States by children and their parents.

The weekly newspaper said the Tucson survey found that some middle-income families wasted nearly 25 per cent of the food they bought. Over-all, the study found that about 10 percent of the food brought to homes in the city ended up in the trash. The value was estimated at up to $11 million yearly.

PROTEIN FOR 117

The Oregon study consisted of examining the discards of about 3,000 children participating in school-lunch programs at nine schools. It was found that the wasted milk alone would provide a full day's protein requirements for 117 children.

It was projected that on a national scale -- if Springfield is typical -- the 15 million youngsters who eat hot lunches at schools annually toss out 29 million gallons of milk worth $45 million.

The Oregon study, a project by a group of students at Springfield High School, was supervised by Conrad J. Roemer. It concluded, "The waste documented in this study is largely the result of a deeply ingrained American attitude.

This attitude, based on a foundation of national abundance and collective wealth without parallel in the history of the world, underwrites the total pattern of consumption for most of us . . . we overeat, and if by chance we can't stuff it all down, we throw the rest away."

'WASTE LEGISLATED'

It pointed out that part of the wasted milk could be traced to federal legislation requiring that each child be served at least a half-pint of milk. Saying it found unopened cartons in the garbage, the report concluded that to a degree "waste is legislated."

The Tucson study was carried out by anthropology students of Dr. William L. Rathje of the University of Arizona. For three years, they analyzed 600 bags of garbage each week from lower-, middle-, and upper-income neighborhoods.

They found that city residents throw away about 9,500 tons of food -- most of it edible -- each year. The figure amounts to about $9 to $11 million worth of food.

The study found that the "most significant waste" was with such staples as beef, fruit and vegetables, and most of it occurred in middle-class neighborhoods. Both the poor and the wealthy were more frugal.

34:1

Title: Food and Technology

Introduction: You may have heard the phrase "technology will solve our problems." The issue to raise is not whether the statement is true or false. Both sides have strong opinions. The issue centers around one's views of role of technology in food production. There is some evidence that in a technical sense the world already produces enough protein and calorie requirement for the world's population. H.A.B. Parpia (Ceres, Sept.-Oct., 1969) states that, "The world produces more than three times the total protein and calorie requirements of its population..." The problem is not production but what is available for consumption. Hence, we must examine techniques for food distribution. Disease; insects and rats; inefficient harvest procedures; and poor distribution, storage and marketing systems in effect create food shortages. In addition cultural habits, taboos, lack of knowledge and subsidies by governments to keep the market price up, all reduce the actual availability of food. In this activity participants examine technical solutions that propose to deal with factors that presently create food scarcity where many believe it should not exist.

Lesson Objectives:

1. To familiarize participants with technical solutions to food distribution problems.
2. To encourage participants to evaluate technical solutions to food distribution issues.

Mechanics:

Time: 1 class period

Materials: Duplicate handout "Food and Technology."

Activity:

1. Explain to the participants the basic issue regarding technological solutions to food issues. One group feels technical solutions will solve problems if implemented. Others feel technical solutions only breed new, more complex problems while often failing to solve or control the original problems.

2. Give the participants the list of technical solutions to food distribution problems. The list can be utilized in the following ways:

   a. Have participants check solutions they think are possible in the next five years. What would make it possible?

   b. Have the participants generate a list of other technical solutions to food distribution problems.

   c. Have the participants list all of the social, political, economic, or cultural factors that could hinder the implementation of the technical solution. Discuss how these

"road blocks" could be overcome.
d. Discuss with the participants the solution listed that interests them the most. Is it interesting because it is possible? Because it is novel? Because it is technical?
e. Take a solution and do more research about the possibilities. Report the findings to the group.
f. Respond in a discussion this statement: "Technology offers humans many ways to provide enough food for everybody, but it can't provide the will."

FOOD AND TECHNOLOGY

1. We can increase the protein content of plants and animals already widely in use.

2. We can make better use of the protein that is lost in the "inedible" parts of the plants and animals that are now thrown away.

3. We can substantially cut down on the losses to pests, spoilage, distribution, etc. through means that are not in themselves contaminative to the environment.

4. We can begin systems of education that will help people use edible foods that are all around them but, for cultural reasons, they do not use.

5. We can synthetically produce missing ingredients (such as amino acids and vitamins) that can increase the nutritional value of traditional foods.

6. We can produce new strains of plants and animals, through genetic manipulation and biological engineering that can survive in areas now barren of edible foods.

7. We can recycle garbage and sewage products so that they become important sources of protein in now unharvested plants and animals.

8. We can produce edible protein from sources not usually thought of as sources of food: newspapers and cartoons, wood chips and sawdust, and petroleum by-products.

9. We can create a world food market based on nutrition rather than on quantity or the number of colors used to print a container that turns out to be half empty when bought.

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* Adapted and reprinted for experimental purposes only from Kaiser News.

Title: Meatless Meals (by George Otero)

Introduction: The U.S. public has been encouraged to eat less meat. Many reasons support this movement. The production of meat from beef and other animals results in a conversion factor often higher than 8 to 1. That means it can take 8 pounds of grain, or more, (usually wheat) to produce 1 pound of beef. In a world where many people have nothing to eat, some people feel the high conversion rate results in a food luxury for meat eaters that is unjustified. Yet, critics point out that not eating meat will not necessarily make more grain available to the world's hungry. Such a practice may result in economic disaster for meat producers and have drastic effects on wheat prices.

Still other people approach the "do not eat meat" issue from another point of view. Meat is not the best source of protein and other important nutrients even if Americans believe so. These advocates believe the public has been misled about the value of meat in a healthy diet. It is obvious that people have positive attitudes about eating meat, especially beef, since every year people in this country eat more and more beef, according to per capita consumption figures. The purpose of this activity is not to decide which point of view is correct, if any of them are as stated. The purpose of the activity is to expose participants to ways of planning and eating a variety of meatless meals. Many persons do not think it possible to have an enjoyable, tasty meal without meat. This experience will broaden their perspectives and enlarge recipe books for a time to come when, for whatever reasons, meatless meals become the rule and not the exception.

Lesson Objectives:

1. To give participants experience in identifying, planning, and preparing meatless meals.
2. To record the reactions of others to a week of meatless meals.
3. To enlarge the participants' knowledge of the variety and taste of meatless meals.

Mechanics:

Time: 1 week

Materials: None need be provided by the instructor.

Activity:

1. Point out to the participants some of the issues raised in the introduction. You might include the activity titled "The Great American Steak Religion."

2. Have participants plan 1 week of evening meals that do not include beef, pork, chicken, lamb, turkey or other meat sources.

This does not include fish. Plan the meals, obtain the food, and prepare and eat the meals.
NOTE: Find out the nutrient contents of the foods and try to make sure proper nutritional needs are met in the meals. This may not have been accomplished in the regular eating habits but should be considered in the project.

3. Record the reactions of the participants to the meals. Keep a file of meatless meals. Share these recipes with the group.

4. Discuss reactions to the meals with the rest of the group. Did attitudes about meatless meals change? Do you still prefer meals with meat? Why? Under what circumstances would you consider eating 1 meatless meal a week? 2, 3, 4, 5? How many meatless meals does your family now eat? Will this experiment have any effect on your eating habits?

Title: A Helping Hand? (by George Otero, adapted from an idea in lessons prepared by Jerry Brown, Population Inquiries: U.S. and World Dynamics, Population Education Project, Social Studies Development Center, Indiana University)

Introduction: The actual mechanics of giving aid to other countries is complex and often quite frustrating. There are always more requests than money, and it is difficult to decide where are the most beneficial uses of financial aid. For an individual country these decisions are affected by more factors than utility and success. Political factors also weigh heavily in the decision-making process. This is also the case for international aid organizations such as AID, although they will not admit such practices. In this activity participants role play some of the elements of the decision-making process with which planners in an organization like AID must deal. Although the situations are simplified, they are sufficient to point out to the participants the complexities that dominate the attempts to make food aid a reality.

Lesson Objectives:

1. To demonstrate the complexities involved in making decisions about financial aid for food-related projects.
2. To help emphasize to participants the cost factors involved in food programs.
3. To match participants' value positions on food aid with choices about actual aid to food programs.

Mechanics:

Time: 1 or 2 class periods

Materials: Duplicate copies of the role description and the project sheet for participants.

Activity:

1. Tell the participants that today they will have a new job with an international organization. In this job they will make decisions that will allow them to test out their own values related to food aid. Hand out the role descriptions and have the participants form pairs.

2. Hand out the project sheets. Give the group 20 or 30 minutes to make their decisions.

3. The next day or session discuss the results. Was there any consensus by the groups? Did any of the projects seem too unrealistic? In what ways was it difficult to make a decision? In what ways was it easy to make a decision? What kinds of information would you need to really make a decision? Could this data be obtained? Would you be in favor of the U.S. giving more money to an organization such as AID?

4. Brainstorm other projects that might help countries in West Africa in food production. How could the group discover the feasibility of such projects? Send to AID and get information on projects funded. Compare these to your lists. Discuss the pros and cons of multilateral vs. bilateral food aid programs. This area needs to be researched. Contact U.S. Government, United Nations, and the World Bank for a start. Develop a debate around the topic.

Handout 1

ROLE DESCRIPTION

For the last two years you have been working for AID as a food expert. You and a fellow expert have now been given the responsibility of deciding how money will be spent. You will have control over a budget of $100,000 for the next year. This is all the money you will have to spend for the entire year in your division which covers West African nations.

A number of requests for money have been received by your office already. You must now decide whether to fund any of these requests. You can give complete support or you can offer to pay for part of the project. You can also make suggestions on how the project could be improved. Remember, you will have to decide how much of the funds you wish to use now and how much you want to hold back for later projects.

Look at the projects. ALL relate to West African nations. Decide which, if any, you want AID to support. Also decide how much money you want to give the project. The total you could spend is $100,000.

PROJECTS THAT HAVE REQUESTED FUNDS

Project No.	Type of Activity	Amount wanted in U.S. $$	Amount AID to support, if any
1	Shipment of fertilizer to Ghana for use by farmers using land that must be irrigated	60,000	
2	Development of a high school course in Nigeria on agricultural methods in tropical climates	15,000	
3	Transfer of 100 students to agricultural schools in the United States and Europe	50,000	
4	Loan to Togo and Dahomey to be used to buy food products available on the world market	80,000	
5	Purchase of tractors to be used to increase food production in 5 West African countries	100,000	
6	Training for researchers to conduct research on ways to increase the harvest of cereal crops such as rice, wheat, and corn	70,000	
7	Money to build part of a new regional agricultural college to be located in Tagos, Nigeria.	130,000	
8	A program to double the well water in irrigated sections of 100 sq. miles of Ghana	60,000	

PROJECTS THAT HAVE REQUESTED FUNDS

Project No.	Type of Activity	Amount wanted in U.S. $$	Amount AID to support, if any
9	Seeds to be distributed to rural farmers throughout the region	10,000	
10	Develop a factory to turn cocoa beans into chocolate. Located in Ghana.	300,000	

Title: Putting a Dollar Value on Life

Introduction: If you were to ask people if they believe the poor should be fed, most of them would unequivocally say yes. Verbally we are all good Samaritans and empathetic philanthropists. Yet, in reality few people act out their benevolent beliefs. In this exercise verbal dilemmas are forced upon the participants to attempt to focus their attention on the important issues of giving instead of the verbal rhetoric.

Lesson Objectives:

To force participants into verbal positions that make them evaluate their actions and values in relationship to their stated positions.

Mechanics:

Time: 1 class period

Materials: The attached article is for teacher background, but with some groups the article could be duplicated, read, and then discussed by the group.

Activity:

1. Read the article a couple of times noting the process of presentation used by Gregory E. Pence. Prepare written notes to use in making the same or similar presentation to your group.

2. It is important that the participants be intellectually caught, or trapped, so to speak. This causes frustration -- frustration which might result in serious examination of personal values and actions.

3. If the presentation is successful, a good discussion will be generated from the philosophical discourse.

38:1

Title: Technology -- Friend or Foe

Introduction: According to some, technology only postpones the inevitable. Because of the nature of population growth and food production, we can at best only postpone starvation and misery for people. In this activity the drought in the Sahel is used as a case study to evaluate the effects of technological change on humankind's condition.

Lesson Objectives:

1. To consider the effects of technological change on the ability of humans to produce enough food for the population.

2. To apply the utterly dismal theorem of Kenneth E. Boulding to the situation in the Sahel.

Mechanics:

Time: 1 class period

Materials: Duplicate copies of the quote by Kenneth Boulding and the case study of the Sahel.

Activity:

Hand out the case study of the Sahel. Have participants read the case and the attached analysis. Then hand out the article quote from Kenneth Boulding. Is the Sahel a case proving the utterly dismal theorem? Discuss with the participants.

SOME RESOURCES ON THE AFRICAN DROUGHT FOR TEACHERS AND STUDENTS

Victor D. DuBois. The Drought in West Africa. (3 parts). American Universities Field Staff Reports, Box 150, Hanover, New Hampshire 03755. 1974. $1.00 apiece.

- Excellent short monographs which include graphs, maps and pictures probing causes, results and present situation of the drought in the six Sahelian states. High school reading level.

RAINS (Relief for Africans in Need in the Sahel), 475 Riverside Drive, New York, NY 10027.

- Organization deeply involved in relief and exploring development alternatives; has film, slides and other information for classrooms.

African Drought! color. 16 mm. 26 min. $365 sale (preview possible) Available from Xerox Films, 245 Longhill Road, Middletown, CT 06457.

- Focuses on the Tuareg. Shows their hunger and other drought problems.

Hal Sheets and Roger Morris. Disaster in the Desert: Failures of International Relief in the West African Drought. Carnegie Endowment for International Peace, 1717 Massachusetts Avenue, N.W., Washington, DC 20036. 1974. free.

- Critical, comprehensive report on relief efforts, long-term development ideas, etc. Raises fundamental questions regarding possibilities even now that rain seems to be falling. Senior high school reading level.

Social Education. Vol. 38, No. 6. November 1974. $1.75

- The whole issue is devoted to articles for teachers on the world food crisis; includes a special article on the Sahel.

Martin Walker. "Drought" in The New York Times Magazine. June 9, 1974. pp. 11-45

- Excellent, concise overview of the drought; includes a vareity of opinions on causes and effects. Junior and Senior high school reading levels.

* * *

The Sahel -- The Utterly Dismal Theorem Come True?

Kenneth E. Boulding in his book The Meaning of the Twentieth Century suggests that when conscious effort and social organization are absent the dismal theorem of population growth will operate.

> "There is a famous theorem in economics, one which I call the dismal theorem, which states that if the only thing which can check the growth of population is starvation and misery, then the population will grow until it is sufficiently miserable and starving to check its growth. This is to say that if the only thing which can check the growth of population is starvation and misery, then the ultimate result of any technological improvement is to enable a larger number of people to live in misery than before and hence to increase the total sum of human misery."[1]

[1]From The Meaning of the Twentieth Century by Kenneth E. Boulding, (New York: Harper & Row), 1964, pp. 126-127.

Title: The Thinking Person's Diet

Introduction: There is always a need for a short, well-written, informative statement about a current topic or problem. The following reading is just such a statement about food. The article focuses concisely and interestingly on the major issues and questions that arise when we consider the function of food in our lives. After participants have read the article, they follow-up with a few questions and activities.

Lesson Objectives:

1. To familiarize participants with questions involving food, using a short comprehensive reading.

2. To provide an opportunity to read.

Mechanics:

Time: 1 class period

Materials: Duplicate copies of the reading.

Activity:

1. Tell the group that you would like them to read an article which attempts to raise important questions about food. Ask participants to record the questions that are raised in their minds as they read the article.

2. Find other ways to communicate the information in the article accurately. This could include tapes, posters, skits, drawings, etc.

3. The article suggests a couple of changes in our society that might place more emphasis on the quality and not the quantity of food we eat. Have the participants suggest more changes. Which changes do the participants think might occur first? Why? Which changes could the individual do immediately?

4. Summarize the article in a paragraph.

5. The information in the article applies to all people everywhere. If this statement is true, would you say that adequate nutrition is a global problem or concern?

Title: Bread and Water Stories

Introduction: Food affects all of us in different ways at different times. When we are hungry the mention of certain foods makes us even hungrier. Yet just after eating a full meal even our favorite cheese cake dessert can look unappetizing. Food brings images to our minds that reflect our backgrounds, opinions, and perspectives. In this activity participants' perceptions are tested by having them create stories immediately following two different situations. The stories and the discussion about them can be instrumental in demonstrating to participants the role our environment plays in our perspectives and judgments.

Objectives:

1. To allow participants to write and compare the content of two stories using a similar set of words.

2. To allow participants time to analyze their stories based on prior experiences and personal points of view.

3. To have participants document examples of how our experience and environment affect our perspectives and perceptions.

Mechanics:

Time: 2 class periods (50 minutes each)

Materials: You can duplicate copies of the word lists or write them on the board.

Activity:

1. As the participants enter the room hand out the word list. Ask the participants to write a short story using the words on the list. The story should be only 1 to 2 pages in length.

2. Collect the stories after each person has put his name on the story.

3. For the rest of the session discuss starvation and hunger in the world using a film, speaker, or other activity included in this series.

4. At the beginning of the next session, or after a few days studying hunger and world starvation issues, give the word list to the participants and have them write another story using the words.

5. Then hand the first story back to the participants and have them discuss the two stories they wrote. The following

questions could be used to guide discussion.

a. In what ways do your stories differ?
b. Which story was easier to write?
c. What could help explain the differences in your two stories?
d. Did our discussions about hunger affect your stories?
e. If we knew more about the world food situation do you think our point of view would change?
f. In order for changes to occur in our behavior we need more than new knowledge. What other things need to happen?
g. Which story do you like best? Why?

WORD LIST

wheat

corn

bread

food

dinner

meal

eat

fat

full

diet

water

4.:1

Title: Food Ideas

Introduction: Many activities are intended to be used with 20-30 students in a large group situation. This activity uses an individualized format. Participants are provided with a number of ideas for exploring issues and topics involving food. Participants may use these ideas in many ways. Some of the uses are discussed in the activity.

Objectives:

1. To provide participants with many ideas for participant study of food issues.

2. To provide participants with many choices from which each participant will make a choice.

Mechanics:

Time: Depends on each participant

Materials: Duplicate copies of the food ideas for student reference.

Activity:

There are a number of ways to use the food ideas.

1. Hand out the list of ideas and have the participants decide which activity should be done first by the group. The participants will have to share their individual criterion and ideas as to what is important to know about food. The ideas could be categorized in a number of other ways:
   a. Which are easiest to do?
   b. Which take the most time?
   c. Which ideas provide the participants with lots of facts? Opinions? New ideas?

2. The ideas could be written on cards and handed out to the group encouraging the participants to complete as many of the actions as possible.

3. One idea could be given to the entire group to complete at the same time.

4. The group could read over the duplicated list of ideas and then generate new food ideas. These could be compiled and added to the list.

5. The ideas could be displayed on a bulletin board. Then new food ideas could be added. As participants finished a task they could initial the bulletin board or put things they had done on the bulletin board next to that particular food idea.

FOOD IDEAS

1. Describe in writing a starving person, an overfed person. (What he looks like, how he feels, what he or she does.) Do this for a child and an adult.

2. Compile a list of the largest food manufactures (General Foods, General Mills, Beatrice Foods, etc.) and the products they sell. Find out what percent of items on the shelves in your supermarket come from these large corporations. (The business section of a good library is the place to begin for this research. Trade journals such as Food Engineering, Meat Processing, and even Advertising Age are also useful. Write for corporate reports.)

3. Make a listing of some of your favorite meals. Are they well balanced? Prove it. Rank order these from those you would give up first to those you would give up last.

4. Make a report on the starving nations of the world. Where are they? Why are they short of food? What can and/or should be done?

5. You are a reporter at the world food conference in Rome. Write three articles for a newspaper covering the important issues and nations attending.

6. Compare the cost of a "convenience" food with the price of its individual components if bought separately -- for example, a tuna and noodle casserole. Determine how much time, if any, the pre-packaged item saves.

7. Plan the meals for your family for one day. (or one week) Make a list of the items you would need for these meals. When you are at the grocery store find the cost of each item. Find the total cost for the day's meal. NOW plan meals for a week on a welfare-poverty diet of $1 per day per person. What exactly can you buy with that money and are the things they plan to eat each day nutritious?

8. What is organic food? What is health food? Are either of these better for you? Why are they better for you?

9. Find out what are the 10 most commonly eaten foods around the world. This would be the basic foods such as wheat, beef, corn, etc. and not meals such as spaghetti.

10. How does the body break down food into different parts? For example: protein, carbohydrates, and fats.

11. Presentation on cultural foods and drinks around the world. How are they similar and how are they different?

12. Food taboos. Do we have any? What are some of the taboos around the world?

13. How does climate effect what kinds of food can be grown there? Make a list or draw a map showing the major foods of each climate.

14. Map or diagram the complete path of a food from its original source to the dinner table. What happens at each stage?

15. What has been the effect of insecticides and fertilizers on the food industry and the consumer?

16. Interview people in the Denver area who work with food or food products. Ask them to explain why the prices of food are rising so rapidly. Do they think we should help the poor countries with their food problems?

17. Do a food collage that has a message or theme to it.

18. Test advertising claims made for items sold in supermarkets. Compare the picture on the package or label with the real thing inside.

19. Write a report about different farming methods around the food.

20. Do a project that will raise money for food distribution to the poor in America or in other parts of the world.

21. Do a report on the hungry in America. In what ways are they similar or different from the hungry in the rest of the world.

22. Make a scrape book of articles you can find in the newspapers and magazines related to food or population. Classify the articles into different groups.

23. What will food be like in the future? Read some science fiction books or stories to get some ideas. Talk to some people in the food business.

24. Make a chart of the jobs or occupations there are that have something to do with food at any stage. Have your chart discuss salaries, job activities, and whether there are openings in the field as well as any other item you would like to chart.

25. What are the diseases caused by the lack of food? Describe what happens to the human body.

26. Investigate several diets that people use to lose or gain weight. (This may include one of the many kinds of "starvation" diets.) Figure out how many calories are consumed with these diets. Are these diets nutritionally adequate?

27. Describe something to eat. You must use all of your senses. Do not give the name of the food being consumed.

28. Find out the purpose of the following government agencies in regulating food: Food and Drug Administration, Food and Agriculture Organization, Federal Trade Commission, and Health, Education and Welfare.

29. Interview some of the grocery store shoppers you know to find out which items have greatly increased in price over the past year. Find out how much the item costs now and how much it cost before the price increases.

30. How does the body break down food into different parts? For example: protein, carbohydrates, and fats?

31. Write a report on UNICEF. What does it have to do with food?

32. Write a cow's view of a slaughter house. Write it in the first person.

33. National foods and drinks around the world. List them.

34. Write the complete history of a food from the earliest times up to the present.

35. Do a report on the various kinds of instant foods such as dehydrated, freeze-dried, etc.

36. How does food spoil?

Title: Food Crisis -- Fact or Opinion

Introduction: When discussing any public issue it is always important to separate facts from opinions. To consider the statement "people would have enough food if they would work" as a fact instead of an opinion would be both unfair and incorrect. There may be facts to support such an opinion, but that statement itself is not a factual statement. Whether or not a person wishes to consider the facts in an issue, it is important to be able to recognize the difference between a fact and an opinion. The purpose of this activity is to allow participants to distinguish between factual statements and opinions related to food.

Objectives:

1. Participants will distinquish factual statements from opinion statements about food.

2. Participants will brainstorm possible advantages of distinguishing between fact and opinion in discussing a public issue.

Mechanics:

Time: 1 class session

Materials: Duplicate copies of the handout titled "Food Crisis--Fact or Opinion?"

Activity:

1. Hand out the worksheet. Tell the participants that the list of statements can be broken down into two categories. One category is factual statements about food. The other category is opinion statements. Ask the participants to write fact next to the factual statements on the list and opinion next to the opinion statements on the list.

2. After the participants have completed the worksheet go over the answers. Participants may disagree about the answers. This may be due to different definitions of fact and opinion. For this exercise the difference to be focused on is the evaluative or judgmental quality of most opinions vs. the descriptive documentary quality of most factual statements. Therefore, even if participants do not know whether a factual statement is actually true or not, it can be categorized as a factual statement. This point can also be used to reenforce to the participants the fact that many statements can be phrased as a fact, but the information contained is not necessarily either true or false.

3. Discuss the advantages of knowing the difference between factual and opinion statements about a topic of public interest such as food. Have the group respond in writing or discussion to this opinion statement: "An opinion is not to be valued or adhered to unless that opinion is supported by verifiable facts."

FOOD CRISIS -- FACT OR OPINION?

opinion 1. There is a food crisis in the world today.

opinion 2. Global fish supplies are threatened by pollution and population growth.

factual 3. The U.S. government paid farmers over $2 billion to keep 19.5 million acres out of production in 1973.

factual 4. In many developing countries, industrial development, tourism, and military needs receive a much higher priority in terms of money spent than agricultural development.

factual 5. There are 70 million more mouths to feed this year than last.

opinion 6. The more technology a country uses the better the quality of life.

opinion 7. Industry and the national governments have the responsibility for solving food shortages.

factual 8. Between late 1972 and the end of 1973, the world price of wheat tripled, and soybean prices doubled in a twenty-four month period.

factual 9. The U.N. estimates that in Asia and Africa, 25 to 30 percent of the population suffers from food deficiencies.

opinion 10. Technology and oceans will feed the world.

Factual statements taken from Prepare , December 1974, National Impact, 110 Maryland Ave., N.E., Washington, D.C. 20002

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Title: Values and Hunger: Four Activities, by Nancy Miani

Introduction: The Values Clarification Process.

Values clarification is a simply-outlined process by which persons can become aware of their own values and beliefs and move in the direction of making their actions more consistent with their values. Developed by professional educators, values clarification has since 1966 achieved great popularity among classroom teachers who report it both effective and popular. The process is outlined as follows:

I. Choosing Values
   1. Values must be freely chosen.
   2. Values must be chosen from among alternatives.
   3. There must be thoughtful consideration of the consequences of each alternative.

II. Prizing Values
   4. The value must be prized and cherished.
   5. We must be willing to publicly proclaim our values.

III. Acting on Values
   6. Acting on values.
   7. True values will be acted upon repeatedly.[1]

Although comprising a simple outline, the process--as is apparent on examination--is not at all simple to effect. It is obvious that classroom application of the values clarification process is dependent on very special leadership on the part of the teacher--an adult who can build the trust necessary to allow defenses to fall, who can permit free choosing of values without imposing one's own values, however slightly. The teacher, in short, has to practice what is preached, or the whole technique will likely dissolve into so many empty gimmicky exercises. The teacher has to drop her or his own defenses, be willing to admit his or her own values and provide a genuine model of a productive, self-directed adult.

Lesson Objectives:

1. To let participants consider global issues from the locus of their own personal values system

2. To give participants practice in determining and vocalizing decisions based on personal values

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Sidney B. Simon and Jay Clark, MORE VALUES CLARIFICATION: STRATEGIES FOR THE CLASSROOM (San Diego, CA: Pennant Press, 1975), pp. 31-35.

Mechanics:

Teaching Time: 1 or 2 class periods
Materials: pencil and paper

Activities:

VALUES / HUNGER

(Adapted from Sidney B. Simon et al., VALUES CLARIFICATION, Hart Publishing Co., New York, 1972, pp. 130-131). The Values Whip is a strategy readily adapted to many lessons. It provides a simple and quick means for members of a group to see how others in the group respond to certain issues. The group leader presents the group with a question to consider for a few seconds. Then the leader "whips" around the group soliciting brief answers to the question. Of course, any student may choose to "pass."

Have you ever been really hungry? Tell about it -- what did you do?
Is the "right to eat" an inalienable right?
On the world market, should food be sold, like steel, to the highest bidder, regardless of need?

_____?
_____?

TWENTY THINGS YOU LOVE TO DO

Participants each make a list of twenty things they love to do. When lists are complete, participants should place an "H" next to items on their list which would probably not be important if they did not have enough to eat. Then participants should complete this statement: "I have become more aware that . . . ."

IF YOU'RE NOT PART OF THE SOLUTION YOU'RE PART OF THE PROBLEM

Have the group brainstorm ways in which individuals can in small ways help to alleviate the world hunger problem. Make a grid:

1. _____ WILL TRY WILL CONSIDER WON'T TRY
2. _____
etc.

WHAT'S FOR DINNER?

In the U.S. we take food very much for granted. List all the foods which together would comprise a very special meal for you. List approximate prices next to each item: total the prices. You may have half the amount needed to select your favorite meal. Which items will you keep and which will you do without?

44:1

Title IN THE NEWS

Introduction

Much of the information the general public receives comes from the daily newspaper. The newspaper is constantly filled with short articles related to issues and events considered to be of public interest. For the last few years and probably for years to come food issues have been dealt with in the newspapers. In this activity participants are asked to collect articles related to food and then to analyze those articles. By practicing a critical evaluative approach to reading the news, participants can become more aware of the value potential and limitations of newspaper information.

Objective

To critically analyze newspaper articles related to food issues

Time 1 class period for discussion
1 hour for collecting news articles over a four or five day period

Materials Duplicate the handout for use by the participants in evaluating the articles they locate.

Procedure

1. Ask the participants to bring in one newspaper article which relates in some way to food. You might make this assignment a few days in advance.

2. Hand out the article analysis sheet. Have each participant fill out the sheet using the information in the article.

3. This sheet could be used to evaluate a number of articles. A file could be made with the attached articles for participant use at a later date.

4. Discuss the articles using the following questions:

   A. Do newspaper articles give enough information about an issue?

   B. What purposes do newspaper articles serve?

   C. What areas on the analysis sheet are weak or left out in the articles? Is this information needed? Where would you get this additional information?

5. The articles could be posted on a bulletin board (at least the headlines). Using the headlines participants could list questions that these headlines raise in their minds. They could then research the questions.

NEWSPAPER ARTICLE ANALYSIS SHEET

Using a newspaper article related to food, identify the following items in the article if that information is contained in the article.

1. point being made

2. alleged cause of problem

3. proposed solutions

4. name and qualifications of person(s) being quoted

5. name and qualifications of person writing article

6. facts in article

7. opinions in article

8. other comments

45:1

Title: Food Day

Introduction: Last year a national food day was observed across the nation. The idea was to inform the American public on many ot the food issues that should be of concern to all citizens. In this activity, groups could organize and implement their own food day. Food days on local or group levels might serve the educational functions that the national food day attempted.

Lesson Objectives:

To spend a coneentrated amount of time on food issues by planning and observing a food day

Mechanics:

Time: 1 day

Materials: copies of the food day suggestions for the planning group to refer to in setting up activities for the food day

Activity:

1. The group must decide that having a food day is worth doing. You might list pros and cons of putting on a food day, whether in a school or community group. Try to cover time, preparation, planning, materials, logistics, and payoff in terms of the goals of a food day.

2. The major goals of the day should be formulated and agreed on.

--The goal might be educational. You might try to provide people with information about diet, world hunger, food policy, farming, etc. You could take one topic or all of them depending on your resources.

--The goal might be involvement. You might use the day to create a food bank, or meet with legislators, or share food recipes, etc.

3. Resources should be identified. This includes speakers, books, pamphlets, organizations, etc. You may have a goal that can't be reached with the resources available, so it is important to list and identify resources.

4. Set up a program and assign tasks to the participants. Examples of programs are included in this activity. Please be sure to include program segments that include people in the action.

People should not be sitting and listening all day.

5. Plan for publicity. This may include a brochure or posters or announcements over the P.A. system at the school.

6. Consider ways to evaluate the success of the program.

Remember that this is just a brief outline of the basic areas to cover in putting together a food day. You will need to plan carefully and consult persons who have experience at operating a successful one-day, full program.

FOOD CRISIS CONFERENCE

I. Overall Goal: Reform of the Food systems

A. Explore how systems can be made more responsive

1. For example; certification by private groups for their constituents.

a. Would this require changes in regulations or registration?

b. Is this something which can be handled administratively?

B. Workshops on specific issues resulting in definite plans for corrective action.

II. Participants

A. Consumers
B. Regulations experts
C. Decision-makers
D. Producers
E. Food Distributers

III. Topics to be addressed around the issue of reform

A. Food stamps
B. Food tax
C. Consumers Co-op
D. Cost of food
E. Quality of food
F. Food distribution systems
G. Food delivery systems
H. Meals for seniors
I. School lunches
J. Direct sale of food
K. Dissemination of food programs, information in a way in which recipients can understand them.
L. Dissemination of information on preparation of food.

IV. Results/Outcome of conference

A. Impact on State and National legislation regarding food systems.

B. Formation of nuclei of conference participants which would take back to communities the leadership and motivation needed to form pressure groups to effect needed change.

1. Use conference as a way of developing the "tool" to bring about reform of food systems.

C. Formulation of recommendations on solutions to alleviate food crisis to be presented to proper authorities.

D. Development of communication system for disseminating information from conference to all areas of the State.

E. Establish teams of conference participants to address (follow-up) specific issues when they return to their communities.

WHAT YOU CAN DO

1 Organize a Food Day coordinating committee in your area. Contact other organizations and keep the press informed of your activities.

2 Coordinate a Food Day teach-in at your school or university.

3 Organize a local food co-op to lower food prices and insure food quality.

4 Establish a farmers' market where shoppers can buy produce directly from the farmer.

5 Plant community gardens on vacant city lots or unused church land.

6 Find out how many people eligible for food programs in your city or county are not receiving them. Start food stamp outreach campaigns or pressure the government to do so.

7 Encourage the land grant agricultural colleges in your area to research farming practices which are not capital, energy or chemical intensive.

Books

BY BREAD ALONE
By Buster Brown
Praeger Paperbacks
111 4th Ave., New York, N.Y. 10003
1974; 256 pp.; **$3.95**

DIET FOR A SMALL PLANET
By Frances Moore Lappé
Ballatine Books, Inc.
101 Fifth Ave., New York, N.Y. 10003
1971; 301 pp.; **$1.25**

NUTRITION SCOREBOARD
By Mike Jacobson
Center for Science in the Public Interest
1779 Church St., Washington, D.C. 20036
1973; 102 pp.; **$2.50**

ROBOTS BEHIND THE PLOW
By Michael Allaby and Floyd Allen
Rodale Press, Inc., Emmaus, Pa. 18049
1973; 182 pp.; **$6.95**

8 Several states have banned corporate farming. Work for legislative protection of family farms in your state.

9 Do supermarket comparison price studies. Educate your neighbors and yourself about oligopolistic control of the food industry and its affects on diet and budget.

10 Does your state or city have a food tax? If so, work to eliminate it.

11 Experiment with changes in your diet. Try eating on a welfare allowance (16 cents per meal). Fast occasionally. Eliminate junk food from your diet. Try eating more whole grains and fresh, raw vegetables, less sugar and more vegetable protein. (See *Diet for a Small Planet* by Frances Lappe for a start.)

12 Evaluate your school lunch program and see how it can be improved.

13 Push for nutrition education in elementary, secondary, college, and medical school curriculums.

14 Demand that at least 50 percent nutritious food (milk, fruit, nuts) be offered in vending machines in school and government offices.

15 Urge TV and radio stations to provide public service time for nutrition and consumer education. (FOOD DAY national offices are preparing radio, TV public service announcements that will be available to local groups.)

16 Demand that government agencies limit junk food advertising for children and enact more informative food labeling regulations.

17 Educate yourself and your congressional representatives about the world food situation, including both domestic and international hunger.

46:1

Title: The Unreality of Hunger

Introduction: Talking about hunger with Americans is difficult. For most Americans hunger is only a word -- a word with little concrete meaning. Most of us have never felt and never will feel hunger or spend time with hungry people. For us, hunger is an abstract, unreal concept. In some ways, talking about hunger in classrooms only increases the abstractness of the term. Yet attempts must be made to educate the public about the realities of hunger. This activity exposes participants to an article by a man who views American habits from a different perspective as related to our views of hunger.

Lesson Objectives:

To expose participants to a different perception on American behavior

Mechanics:

Time: 1 class period

Materials: Duplicate copies of the article titled "The Unreality of Hunger."

Activity:

1. Mention to the group that there are many aspects of American behavior that lend themselves to negative perceptions by other people in other countries. This is especially true of American behavior related to food habits and food policy. Hand out the article. Mention that the article explains how American actions can be interpreted.

2. Have the participants attempt to justify the information cited in the article such as the $1.5 billion spent annually on food for cats and dogs. This justification could be on other data and could be in the form of a letter to the editor. How many people agree or disagree with the author's perspective? Discuss.

3. Have the participants brainstorm ways to make Americans more aware of the reality of hunger. If possible, try out these methods.

Title: World Trade (Andrew Smith).

Introduction: World Trade is a simulation exercise. The participants divide into 5 groups and utilize decision-making skills in trading for different commodities. The game demonstrates to participants the implications and results of following various trade policies.

In an interdependent world where food is a commodity which must be traded, it is essential that people understand the nature of trade policies and the potential for conflict and cooperation in the world trade market.

Objectives:

1. Participants will form groups and participate in group decision making.

2. Participants will evaluate their groups' policies as demonstrated in game play.

3. Participants will discuss the role of trade as related to food distribution.

Mechanics:

Time: 1½ hours
Materials: All materials needed are included in this exercise. These materials should be duplicated for the use of the participants.

Activity:

1. Divide into five groups. Assign names to each group:

   (A) Agria
   (B) Industria
   (C) Consumia
   (D) Mineria
   (E) Energia

2. Ask each group to make a sign which will identify their group--you may want to have signs ready if you wish.

3. Pass out Student Handout #1. Read handout with class. Answer any questions regarding procedures students may have, but try to move them into playing the first round without a lot of discussion concerning content.

4. Pass out Student Handout #2. Ask students to discuss which policy they wish to follow during the first round. The group must agree unanimously on a given policy. Failure to agree

upon a decision will mean an automatic loss of 100 points.
The winning group will receive a prize--hold up a shopping bag.

5. Ask each group what its decision was, and put on board. Give each nation their points, then request that students discuss second-round strategy.

6. Have students play 5 rounds without communication between groups.

7. After the 5th round, tell students that they will be able to give a 1-minute message through the International Radio. Nations are not required to speak if they do not desire to do so. Give them 5 minutes to decide what they will say. After completion of the International Radio activity, proceed to round 6. Repeat Communications Session each round thereafter.

8. The following incidents can be announced as needed:

   (A) Bad weather will cost Agria -50 points. Also, all other nations get -20 points.
   (B) World slump in demand for consumer products--Consumia loses -50 points.
   (C) New technological invention makes some industrial plants in Industria obsolete--Industria loses -50 points.
   (D) Development of solar power destroys market for energy--Energia loses -100 points.
   (E) Mineria exhausts some natural resources--Mineria loses -50 points.
   (F) World population outstrips economic development--all nations lose -50 points.
   (G) World economic recession--all nations lose -50 points. If at least 4 nations do not choose policy A, all nations will again lose -50 points in the next round.

9. Note on Revolutions: Nations are subject to revolution every time their cumulative score falls below -300. Declaring a revolution is at the discretion of the director.
After a nation has a revolution, state that nations with positive points (if there are any) may give some points in aid to any other nation.

CUMULATIVE POINTS--WORLD TRADE
(to be written on board)

Round:	AGRIA		ENERGIA		MINERIA		CONSUMIA		INDUSTRIA	
	Choice	Points	Choice	Points	Choice	Points	Choice	Points	Choice	Points
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

NOTE----Rounds 1-5 are to be played without communication

SUGGESTED TIMELINE---WORLD TRADE

1.	Getting into groups	5 minutes
2.	Introduction by teacher	5 minutes
3.	Reading directions to the simulation	5 minutes
4.	Group discussion of Round 1	5-10 minutes
5.	Round 1 decision and scoring	5 minutes
6.	Group discussion of round 2	5 minutes
7.	Round 2 decision and scoring	2 minutes
8.	Rounds 3, 4, 5--repeat above steps with about 2-3 minutes allowed	12 minutes
9.	Communication, discussion, and Round 6	10 minutes
10.	Communication, discussion, and Round 7	10 minutes
	Total time (approximately)	1 hour

DEBRIEFING--30 minutes

WORLD TRADE (Student Handout)

You are about to play a simulation. The simulated world consists of five fictitious groups of nations:

Agria: has a large surplus of agricultural products, but must import other products to survive.
Industria: produces heavy industrial products, but must import other products to survive.
Consumia: produces consumer products, but must import other products to survive.
Energia: produces energy, but must import other products to survive.
Mineria: produces mineral resources, but must import other products to survive.

Your group must decide whether it will:
A. Encourage trade by a combination of lowered tariffs and lowered export good prices.
B. Keep trade barriers at current levels and maintain prices of exported products.
C. Increase cost of major export products and/or create higher tariff levels.

If all nations encourage trade by selecting choice A, all nations will benefit from the increased trade.

If all nations choose policy C, Trade will decrease and hence all nations will lose.

The following points will accrue to nations when the indicated mixed situations occur:

Where:	Your Choice: A	B	C
No nations choose C	+100	+30	-0-
1 nation chooses C	+20	+10	+100
2 nations choose C	-10	0	+50
3 nations choose C	-50	-20	0
4 nations choose C	-100	-50	-50
5 nations choose	-0-	-0-	-100

All nations can survive some negative points; however, any nation with a cumulative score below -300 is subject to internal revolution. Revolutions cost an additional -100 points per nation.

GROUP: _____

	CHOICE	POINTS	CUMULATIVE TOTAL
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

DRAFT

LIST OF AVAILABLE POPULATION/FOOD MATERIALS

Center for Teaching International Relations (CTIR)

POPULATION RESOURCES--Resource and Teaching Units

(1) Options - A Study Guide to Population and the American Future (Population Reference Bureau, Washington, D. C.)
(2) Focusing on Global Poverty and Development: A Resource Book for Educators. Jayne C. Millar, Overseas Development Council (ODC), Washington, D. C.
(3) Population Education Resources (Zero Population Growth)
(4) Equilibrium (Zero Population Growth)
(5) Population Inquiries Teaching Unit (grades 9-12) (Social Studies Development Center, Indiana University)
(6) The People Packet (National Association for Foreign Students Affairs)
(7) Teaching About Population: A Guide to Discussion, Study, and Resources. INTERCOM, Center for War/Peace Studies, New York)
(8) Environment and Population: A Sourcebook for Teachers. Kathryn Horsley (National Education Association) 1972
(9) Population Bulletin, series; World Population Data Sheet; Population Profile, series (Population Reference Bureau)
(10) Teaching About Population, Secondary School Teachers Kit (U.S. Committee for UNICEF)
(11) An Introduction to Population, Environment, and Society. Lawrence Schaefer, (Educational Services, New Haven, Conn.) 1972. Grades 7-12
(12) Teaching Notes on Population--Foreign Area Materials Center (New York) and Lawrence University (Appleton, Wisconsin). Fall/Winter, 1973, Spring/Summer, 1973, Fall/Winter, 1974
(13) Population Profiles: Series of 13 Units for the Study of Demography. Center for Information on America, Wash., D. C., 1971
(14) Population and Development Issue Packet (American Freedom From Hunger Foundation, Washington, D. C.)
(15) Communique (various issues) Overseas Development Council, Washington, D. C.
(16) Guide to Teaching About Population (UNICEF--U. S. Committee for UNICEF) New York, 1974.
(17) Interchange, Population Education Newsletter, Population Reference Bureau, Inc. (various issues)
(18) The Inter Dependent, United Nations Association (various issues), New York-UNA-USA
(19) Population: The U.S. Problem, the World Crisis. Population Crisis Committee, 1972 (Washington, D.C.)
(20) U.N. Population Year 1974, United Nations. Secretariat for World Population Year UNFPA, New York

POPULATION RESOURCES--Articles, Books, & Publications

(21) "How Many People," Headline Series, No. 218, Foreign Policy Association (N.Y.) 1973.
(22) "People! People!" Great Decisions 1974, Foreign Policy Association, New York
(23) Materials on Protein Gap, Food, and Development (Agency for International Development)
(24) Earth Our Crowded Spaceship, Isaac Asimov. New York (with UNICEF). 1974
(25) Food and Population Report No. 19, Summer-Fall, 1974. Victor-Bostrum Fund for the International Planned Parenthood Federation.
(26) Population, Valerie K. Oppenheimer (Foreign Policy Association, Inc.) 1971
(27) "The Human Population" Scientific American, Sept., 1974

POPULATION RESOURCES--Articles, Books, & Publications (cont.)

(28) INTERCOM #72, Teaching About Population (New York-Center for War/Peace Studies, 1973)
(29) INTERCOM #78, Teaching Interdependence: Exploring Global Challenges Through Data (New York, Center for War/Peace Studies, June, 1975)
(30) The Limits to Growth, by Donella Meadows, Dennis Meadows, Jorgen Randers, and William Behrens III. New York: New American Library, 1972.
(31) Population, Environment, and People, ed. by Noel Hinrichs. McGraw-Hill, 1971.
(32) The Population Bomb, by Dr. Paul R. Ehrlich. New York: Ballantine Books (with the Sierra Club), 1968.
(33) The Population Dilemma, ed. by Philip M. Hauser. Prentice-Hall, Inc., 1963.
(34) This Crowded World, by Lillian Frankel. Washington, Population Reference Bureau. Columbia Books ((Washington), 1971.
(35) People!, by Robert Cook and Jane Lecht. Washington, Population Reference Bureau. Columbia Books (Washington), 1973.
(36) Brown, Lester. World Without Borders. New York: Random House, 1973.

PLUS 100 Activities for Teachers on the Issues of Population/Food, in preparation by the Center for Teaching International Relations (CTIR)

D R A F T

FOOD RESOURCES

(1) American Freedom From Hunger Foundation (AFFHF). Bulletin
(2) The UNESCO Courier, May, 1975. "The Hunger Gap". (UNESCO Office, Paris)
(3) Interchange, Population Education Newsletter (various issues). Population Reference Bureau, Washington, D. C.
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PLUS 100 Activities for Teachers on the Issues of Population/Food, in preparation by the Center for Teaching International Relations (CTIR)

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